

Interprofessional Collaborative Practice: An Assessment of Patient-Centered Care

A DNP Project

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Dedication

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Abstract

The purpose of this DNP project was to describe the extent to which interprofessional collaborative practice (IPCP) at Ohio State's Total Health and Wellness (THW) at University Hospital East provides patient-centered care. The IOM's 2003 *Core Competencies for Health Professions* was the framework for this project. A survey method was utilized for this evidence-based practice project. Sampling for the survey was a convenience sample of THW adult patients over the age of 18 who had been involved in IPCP care, in the form of TEAMcare. Trained student nurse volunteers surveyed participants over the phone. The *Interprofessional Collaborator Assessment Rubric* patient/client family-centered care dimensions were modified to form the four survey items and one qualitative question for this project. This rubric is designed to assess collaborative competencies with interprofessional students and professionals. Twenty-four surveys were collected from participants reporting either a singular disease or combined disease processes of diabetes, hypertension, hyperlipidemia, and depression. The survey response rate was forty-three percent after one month of data collection with 24 surveys completed and a 70.8% response agreement on three of the four survey items. The results of the 1-5 Likert scale responses to the four patient-centered statements were calculated via a query set up in an Access Database. The mean for all questions ranged between 4.25 - 4.5 on the Likert scale indicating high perceived patient-centeredness. Two common themes emerged from responses to the qualitative question: 1) the team is good and helpful and 2) the team is informative. The results of this project reveal that this interprofessional collaborative NP led practice providing care to an underserved and at risk population with multiple chronic diseases carrying significant morbidity and mortality deliver primary care that is perceived by patients to be highly patient-centered.

Chapter One: Nature of the Project

Introduction

The purpose of this project was to describe the extent to which interprofessional collaborative practice (IPCP) at Ohio State's Total Health and Wellness (THW) at University Hospital East provides patient-centered care. The project was completed at University Hospital East (UHE). UHE, a division of the Ohio State University Wexner Medical Center (OSUWMC), is located on the near east side of Columbus, OH. This area has experienced economic decline since the 1960s and 1970s (The Columbus Health Department, 2004). The UHE Emergency Department (ED) has approximately 500,000 visits per year. In 2011, 70.7% of those patient visits were outpatient visits and were not admissions to the hospital. From the perspective of payor source, 70% of these visits were either self-pay, Medicaid eligible, or Medicaid (R. Salmen, personal communication, September 12, 2012). Because many primary care providers in this area will not take Medicaid or uninsured patients, many of these individuals are obliged to seek health care in the ED (The Columbus Health Department, 2004).

Numerous near East Columbus residents are uninsured and have limited resources for health care services (The Columbus Health Department, 2004). From a community survey done in 2004, Near East residents are twice as likely as the rest of Franklin County residents to have no insurance, twice as likely to be covered by Medicaid, and half as likely to be covered by private or commercial insurance. At the time of the Health Department survey, less than half of the primary care providers in the area were accepting new patients, less than 50% of providers accepted uninsured patients, and only one-third of them offered a sliding scale for services. When comparing hospitalization rates for common diseases such as diabetes, hypertension, and chronic obstructive pulmonary disease (COPD), rates were higher in this area than the average rates in Franklin County. Mortality rates associated with diabetes for the Near East side were also twice the rates of those for Franklin County (The Columbus Health Department, 2004). It was apparent from this community survey that lack of access to healthcare in Near East Columbus was playing a significant role in hospitalization and mortality rates for these residents.

Ohio State Total Health and Wellness at University Hospital East (hereafter referred to as THW) opened in January of 2013 to establish a nurse practitioner-led interprofessional collaborative practice (IPCP) to care for this *at risk* population. IPCP and team based care has been endorsed by multiple organizations and national bodies (Agency for Healthcare Research and Quality, 2010; Institute of Medicine, 1972; Institute of Medicine, 2003a; Josiah Macy Jr. Foundation, 2010; Kaiser Family Foundation, 2011; O'Neil & PewHealth Professions Commission, 1998). The Institute of Medicine (2003) has also identified patient-centered care as one of the six-aims for improvement in health care to better meet patients' needs in the 21st century. THW uses TEAMcare, a team-based model, that has demonstrated positive outcomes with chronic diseases utilizing IPCP, collaborative goal setting with the patient, practical care planning, and integrating mental health care to address depression while also providing guideline based care for diabetes, hypertension, and coronary artery disease (Katon et al., 2010; McGregor, Lin, & Katon, 2011). TEAMcare is utilized at THW as interprofessional collaborative care to manage depression, hypertension, hyperlipidemia, and diabetes. Group visits in which multiple patients with similar diseases come together with an interprofessional team are also utilized at THW. Group visits for high-risk chronic diseases such as diabetes, hypertension, and hyperlipidemia, have been shown to be associated with improved care, quality outcomes, health related quality of life (HRQoL), and patient satisfaction (Deakin, McShane, Cade, & Williams, 2005; Edelman et al., 2012; R. Jaber, Braksmajer, & Trilling, 2006).

Purpose

The purpose of this DNP project was to describe the extent to which IPCP at Ohio State THW at University Hospital East provides patient-centered care.

Objectives

The objectives of this DNP project were: 1) to describe the extent to which THW patients receiving IPCP care perceive their care to be patient-centered; and 2) to describe the suggestions THW patients offer about patient-centered care when asked about their experiences with IPCP care.

Significance of Project to Nursing and Healthcare

The Institute of Medicine's (IOM) 2003 report *Crossing the Quality Chasm: A New Health System for the 21st System* proposed six dimensions as aims to improve the quality of health care in America. Patient-centered care was identified as one of those dimensions wherein patients are provided care that is: "respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions" (Institute of Medicine, 2003a). Interprofessional collaborative care is also recognized as important in 21st century healthcare. The IOM (2003b) identified core competencies for health professions in their report *Health Professions Education: A Bridge to Quality* that included the ability to deliver patient-centered care as members of an interdisciplinary team. Interdisciplinary teams, collaboration, and communication among clinicians were identified as fundamental to integrating care in an increasing complex health care system. As early as 1972, the IOM made the recommendation for interdisciplinary care when they identified that a team approach to care would better meet the needs of patients and communities and would decrease the rapidly expanding cost of care (Institute of Medicine, 1972). The Fourth Report from the O'Neil & Pew Health Professions Commission (1998) *Recreating Health Professional Practice for a New Century* also capitalized on the importance of interdisciplinary competence in all health professions to manage the acute and chronically ill. "Resources are used in the most timely and efficient way; mistakes or duplication of services is avoided; and the expertise and instincts of a number of trained health practitioners are brought to bear in an environment that values brainstorming, consultation, and collaboration" (O'Neil & Pew Health Professions Commission, 1998).

Ash and Miller (2011) recognize that the terms interdisciplinary and interprofessional, as they are used in the health care to describe collaboration between different professions, are often used interchangeably. They report slightly different connotations in the meanings of the two words. *Interprofessional collaboration* is defined, by these two authors, as the broader concept and carries with it the interaction among individuals who represent a particular discipline or branch of knowledge and their unique educational backgrounds, training, experience, values, roles, and identities. *Interprofessional*

acknowledges that there may be some shared knowledge, skills, and abilities among the different professionals. *Interdisciplinary* identifies the particular knowledge unique to a specific discipline. *Interprofessional* is used most often in the current literature and may be due to the appreciation of overlap and shared knowledge and respect among disciplines

Group visits, or shared medical appointments (SMAs), have been utilized for sometime in the outpatient settings for the management of chronic diseases and pregnancy. Studies in the literature as early as the 1980s document positive outcomes with group visits (Deakin, McShane, Cade, & Williams, 2005; R. Jaber, Braksmajer, & Trilling, 2006). Most of these trials' outcomes measure easily quantifiable indicators such as HgbA1c, blood pressure, cholesterol, and resource utilization of services such as hospitalization, office visits, and ED visits. While some studies measured markers including patient satisfaction and health care quality of life indicators, no studies explore patient-centeredness relative to group visits.

The concept of *patient-centered care* is not new. Balint and colleagues first introduced the term *patient-centered medicine* in 1969 (Brown, Stewart, Watson, & Freeman, 2003; Conway et al., 2006). Carl Rogers introduced *client-centered* therapy even earlier than this. Mention of *patient-centered care* appears in the literature as early as the 1980s (Levenstein JH, McCracken EC, McWhinney IR, Stewart MA, & Brown JB, 1986). An extensive report by Conway et al. (2006) in collaboration with the Institute for Family-Centered Care and the Institute for Healthcare Improvement reviewed the evolution of terms *patient-centered* and *family-centered* care and discovered the following core-concepts of this type of care: dignity and respect of the patient/family; information sharing with the patient/family; participation in care and decision making at any level by the patient/family; and collaboration among patient/family with health care practitioners regarding many aspects of care and education. However, defining *patient-centered* care in operational terms has been difficult (Bertakis & Azari, 2011; Institute of Medicine, 2003c; Little et al., 2001b; Mead & Bower, 2000; Stewart M et al., 2000; Winefield, Murrell, Clifford, & Farmer, 1996). The *patient-centered clinical method* (Stewart et al., 1986) and the five components of this

method have been used as the theoretical model for many studies examining *patient-centeredness* in the physician/patient care relationship. This model will be explored more during the literature review.

Two sets of core competencies for interprofessional practice have been established since 2010. These core competencies are recommendations for current interprofessional practice as well as interprofessional practice education. The Canadian Interprofessional Health Collaborative (CIHC) published *A National Interprofessional Competency Framework* in 2010 and the American Association of the Colleges of Nursing (AACN), the American Association of College of Osteopathic Medicine (AACOM), the American Association of College of Pharmacy (AACP), the American Dental Education Association (ADEA), the Association of American Medical Colleges (AAMC), and the Association of Schools of Public Health (ASPH) published *Core Competencies for Interprofessional Collaborative Practice: Report of an Expert Panel* in 2011. The American Expert Panel report cites the many reports already cited here including the IOM reports, and the O'Neil & PEW Foundation (1998) report, and the passage of the American Recovery and Reinvestment Act of 2009 and the passage of the Patient Protection and Affordable Care Act (ACA) of 2010 as stimuli for new approaches to primary health care that include interprofessional collaborative patient-centered care. The CIHC framework sites the improved health outcomes that accompany IPCP as the primary goal for this type of care. The Canadian and the U.S. core competencies statements identify patient-centered care as critical to the framework/models.

CIHC has patient-centered care as one of the six competency domains. *Patient/family/community-centered care* and *interprofessional communication* are the two domains that encircle the four other domains of: *role clarification*, *team functioning*, *interprofessional conflict resolution*, and *collaborative leadership* around the goal of *interprofessional collaboration* in their pictorial representation of their framework (Canadian Interprofessional Health Collaborative, 2010). See Appendix A for the pictorial representation of this framework. CIHC defines patient/client/family/community- centered care as: “learners/practitioners seek out, integrate, and value, as a partner, the input and the engagement of

patient/client/family/community in designing and implementing care/service” (Canadian Interprofessional Health Collaborative, 2010).

The report of the American Collaborative Expert Panel identifies patient-centered care within its first interprofessional competency practice domain: *value/ethics for interprofessional practice* and defines patient-centered care using the same definition as the IOM (Institute of Medicine, 2003a). Value/ethics of patient-centered care is defined as placing the interests of patients and populations at the center of interprofessional health care delivery. In the pictorial representation of the interprofessional collaborative practice domains (Appendix B), the four competencies of: *values/ethics for interprofessional practice*, *roles and responsibilities for interprofessional practice*, *interprofessional communication practices*, and *interprofessional teamwork and team-based practices* sit in an inner circle and patient and family-centered care is the outer ring encircling these competencies. (Interprofessional Education Collaborative Expert Panel, 2011). According to both the CIHC and the American Collaborative Expert Panel models, patient-centered care is at the heart of IPCP in healthcare.

The Institute of Medicine has recognized nursing as one of the critical professions in the healthcare delivery system and has made specific recommendations for the profession relative to its role in helping to redesign the system in order to make it safer, more effective, of higher quality, and sustainable. “Nurses should be full partners, with physicians and other health professionals, in redesigning health care in the United States” (Institute of Medicine, 2011). The American Organization of Nurse Executives (AONE) and the AACN have forged a partnership task force to develop guiding principles to advance nursing practice in the setting of: the passage of the ACA, the requisite that healthcare delivery must change to become more efficient, safe, affordable, and equitable, and in light of the IOM’s acknowledgment of nursing as an essential profession in this transformation. Their principles outline academic and practice partnerships that must occur in order for this transformation to take place. These principles include a commitment to support opportunities for nurses to lead and develop collaborative models that redesign practice environments to improve health outcomes including

innovative patient-centered delivery systems (American Organization of Nurse Executives & American Association of Colleges of Nursing, 2012).

A nurse-practitioner led primary care led clinic utilizing a care model to manage diseases with significant morbidity and mortality is the type of invitation the Institute of Medicine is making of the nursing profession to assist in redesigning care delivery to make healthcare more effective, safe, of higher quality, and patient-centered. It is also the type of practice model supported by the AONE and AACN. Examination of THW's IPCP practice is essential in determining the benefits of its implementation. In this project, the evidence-based question is about patient-centeredness relative to this care delivery model. If nurses are to be instrumental in redesigning health care then evaluation of a model of care is of paramount importance.

The examination of this collaborative model is of great importance. This study of redesigned care, completed by a DNP, has potential to impact policy and healthcare delivery for the future. The DNP prepared nurse is educated to navigate the complex health care environment and to use evidence-based practices for project development and implementation to improve the delivery of health care (Zaccagnin & Edinger, 2011).

Chapter Two: Review of Literature

Framework

The purpose of this project was to describe the extent to which IPCP at THW provides patient-centered care. The framework used for this project comes from the IOM 2003 report *Health Professions Education: A Bridge to Quality*. In that report, the five competencies necessary for health care professionals are outlined and depicted in an overlapping fashion. At the center of the framework is *providing patient-centered care*. Overlapping patient-centered care are three other core competencies: *employing evidenced-based practice*, *applying quality improvement*, and *utilizing informatics*. All four of these competencies are encircled by the competency *working in interdisciplinary teams* (Appendix C). This framework exemplifies the fundamental objective of this project, the examination of an evidence-based practice (EBP) approach of providing interprofessional collaborative care (interdisciplinary care) to examine patient-centered care. Patient-centered care was the central focus of this project. Evidence-based practice, in the form of group visits and TEAMcare, has been used in the design of the interprofessional practice for the care of patients with difficult to manage disease processes including diabetes, hypertension, hyperlipidemia, and depression. EBP was also utilized in the choice of the tool used to determine how this approach meets patient-centered needs in this setting.

Patient-centered care as defined by IOM was identified previously but it's more complete definition as a core competency in *Health Professions Education: A Bridge to Quality* (Institute of Medicine, 2003b) report includes:

identify, respect, and care about patients' differences, values, preferences and expressed needs; relieve pain and suffering; coordinate continuous care; listen to; clearly inform, communicate with, and educate patients; share decision making and management and continuously advocate disease prevention, wellness, and promotion of health lifestyles, including a focus on population health (p. 45).

Working in interdisciplinary teams includes (as previously discussed) cooperating, collaborating, communicating, and integrating care in teams to ensure that care is continuous and reliable. Employing

evidence-based practice is identified as integrating the best research with clinical expertise and patient values for optimum care, and participating in learning and research activities to the extent feasible (Institute of Medicine, 2003b).

While patient centered care, interprofessional (interdisciplinary) team care, and EBP were central to this project, informatics was also important to this project and care model. Informatics was utilized in the care of patients throughout their care experience. Documentation, communication, collaboration, and provision of care for the patient occurred via the electronic health record. However, the electronic health record was not utilized for this project. The IOM health professions core competencies were woven throughout this DNP project. It is the central competency of patient-centered care intertwined with evidence-based practice and enfolded by the interdisciplinary team care competency that made this framework the relevant one for this project.

Literature Review

A review of literature for this project necessitated reviewing several different related and somewhat interrelated topics. The search strategy used for this project included searching the following databases: PubMed, CINAHL, and Cochrane. Additionally the OSU Main Library database, WorldCat, was also searched. Key search terms used included: patient-centered care, interdisciplinary care, interprofessional care, interprofessional collaborative care, group visits, shared medical appointments, team care, and team based care. Combined terms were used for searches and these included: interprofessional care and patient-centered care, interdisciplinary care and patient-centered care, group visits and patient-centered care. Supplemental approaches used included hand reviewing of references from the articles located during the initial searches. These articles and texts were then located using the databases previously noted.

While the concept patient-centered care is not new, defining it in operational terms has been difficult and there is a paucity of literature relative to this concept. How patient-centered care is studied and what outcomes are studied varies greatly. Interprofessional collaborative care and/or interdisciplinary care has been studied; however, most study outcomes measure improvement in disease-specific factors

such as HgbA1C, blood pressure, cholesterol, hospitalization rates, etc. These studies are not reviewed here as the focus of this project was on the process of patient-centered care, not patient outcomes. IPCP and interdisciplinary care trials reviewed measure outcomes relative to patient satisfaction and health-related quality of life (HRQoL) indicators. Since patient satisfaction and HRQoL are measures assessed by the patient subjectively, they are felt to more closely match the subjective measurement of patient-centeredness and so these studies were the concentration of the literature review.

Shared medical visits or group visits were the final focus of the literature review. The emphasis with this portion of the literature review was also on patient satisfaction and HRQoL indicators. Patient-centered care was combined individually with group visits (shared medical visits) and interprofessional care (interdisciplinary care) and the synonyms for the various concepts in order to try to obtain as many studies as possible. However, few researchers have looked at the combined concepts.

Patient-Centered Care. Stewart (1984) completed an exploratory study of 140 patient recorded interactions in 24 family medicine practices in Canada to determine if patient-centered interviews are correlated with positive outcomes. Scheduled visits with established patients presenting with new and chronic complaints were audiotaped and evaluated using Bales Interaction Process Analysis to determine doctor-patient interaction. Bales Interaction Process has been used previously in non-psychiatric medical settings with established validity (Stewart MA, 1984). Interactions were specifically evaluated to determine physicians' behaviors in facilitating patients' expression of themselves to speak openly and to ask questions and for physicians' to actively seek patients' points of view. Patient satisfaction was evaluated using a seventeen-item scale developed and shown reliable by Hulka and Zyzanski and validated by Stewarts and Wanklin. Highly satisfied patients had scores greater than or equal to the 75th percentile and physician behaviors deemed to be patient-centered were deemed high frequency if the relative frequency of the behavior was greater than the median. While the results were not statistically significant, physician behaviors determined to be patient-centered were associated with higher patient satisfaction. The patient-centered behaviors associated with patient satisfaction were: showing solidarity; releasing tension; agreeing and showing passive acceptance or understanding; asking for opinion,

evaluation, expression of feelings; asking for suggestions, direction, or possible ways to act; and showing tension, anxiety and asking for help. While patient satisfaction was not associated with patients' expressing self in general, some patient behaviors were associated with patient satisfaction. These patient behaviors associated with high patient satisfaction were: patient giving opinions and patient showing tension (Stewart MA, 1984).

Mead and Bower (2000) completed an empirical literature review of patient-centeredness based on their five constructs of patient-centeredness: biopsychosocial perspective; patient as person; sharing power and responsibility; therapeutic alliance; and doctor as person. The aim of this review was to explore these concepts of patient-centeredness and its measurement. Most of these 22 studies, completed between 1969 and 2006, examined two main approaches to measuring patient-centeredness: self-report measures of the physicians' patient-centeredness and evaluation of the patient-centeredness of the consult process by the external observation of reviewers. From this review, factors influencing the five dimension of patient-centeredness were proposed. These factors include: patient factors, consultation-level factors, doctor-factors, shapers, professional context influences, and time. Many measures of patient-centeredness were identified and related to the five dimensions of patient-centeredness. Many of the tools were found to be reliable when measured against external variables. However, the findings were inconsistent and the authors suggest that measuring patient-centeredness in relation to outcomes such as satisfaction or health status may not be an appropriate measure of patient-centeredness. These authors suggested that further research is needed into the complex and contextual dimensions of patient-centeredness.

Stewart et al. (2000) observational cohort study of 315 patients in 39 Canadian family practices found positive improvements in 3 components of patient-centered care and perception of health outcomes two months after implementation of a patient-centered care model. Participants of the study had one or more presenting problems, were English speaking, older than eighteen years, did not present for a psychiatric illness, and were not deemed to be too ill or disabled to answer questions. Patient-centered communication scores in this study were based on the first three components of the *patient-centered*

clinical method: exploring the disease and illness experience; understanding the whole person; and finding common ground (Stewart et al., 1986). A pictorial representation of this method is located in Appendix D as it has been used as a theoretical model in other studies. Communication scores could range from 0 (not at all patient-centered) to 100 (very patient-centered). Interrater reliability has been established in previous versions of the measure and ranged from 0.69-0.91 for the current study. Intrarater reliability for the current study was 0.73 (n=20). The methods used to determine reliability were not reported. Patient-centered communication scores were significantly correlated with patients' perceptions that the patient and physician found common ground ($r=0.16$; $P=.01$). There were three areas in which total scores of patients' perceptions of patient-centered care (range 1-2.9; mean 1.5; SD 0.37; $P=.03$) was associated with perceived positive health outcomes for patients. The Visual Analog Scale (VAS), which has been previously tested for reliability and validity, was used to measure level of discomfort. Health status was measured using the Medical Outcomes Study Short Form 36 (MOSF-36), a valid and reliable questionnaire. Patients that perceived their encounter with physicians to be patient-centered had lower postencounter levels of discomfort ($P=.0001$), lower postencounter level of concern ($P=.02$), and improvement in their mental health dimension ($P=.05$) evaluated 2 months after the encounters.

In an observational questionnaire study, Little et al. (2001b) explored patients' perceptions of patient-centered care. Eight hundred and twenty-four pre-consultation patients in the waiting room of primary care centers in England completed a Likert-scale questionnaire. The three primary care centers and participants represented a range of settings and patient populations in England. A draft questionnaire was piloted on 140 patients. Test re-test reliability after two weeks with 20 consecutive patients exhibited interrater reliability of 0.47-0.71 for the first three domains of the questionnaire. The questionnaire was based on Stewart and colleagues' principal domains of patient-centered clinical method (Appendix D): exploring the experience and expectations of disease and illness; understanding the whole person; finding common ground regarding management (partnership); health promotion; and enhancing doctor-patient relationship (Little et al., 2001b). Factor analysis suggested three components: communication, partnership, and health promotion, that accounted for 91% of variance for patients' preferences during

consultations. Internal reliability was measured utilizing Cronbach's α statistic. Communication (Cronbach's α 0.92) included listening, exploration of concerns and requirements for information, doctor-patient relationship and clear explanations. Partnership (Cronbach's α 0.87) included finding common ground, exploring, discussing, and mutual agreement about the patient's ideas, the problem, and the treatment. Health promotion (Cronbach's α 0.90) included how to stay healthy and reduce the risks of future illness (Little et al., 2001b). Post-consultation questionnaires were also piloted and patients were interviewed to clarify wording of the questionnaire. No test re-test reliability was noted for this questionnaire. The post-consultation questionnaire, completed by 661 patients (Little et al., 2001a), measured patients' perception of the physician approach to the consultation and patient satisfaction. Communication and partnership was the strongest predictor of satisfaction ($B=0.96$; 95% CI 0.87 to 1.05; $P < 0.001$). Independent predictors of enablement (six questions about the patient being enabled to cope with the problem and with life) were patients' perceptions of the doctor's interest in the effect of the problem on life ($P=0.001$), health promotion ($p<0.001$), and a positive approach by the doctor ($P<0.001$) (Little et al., 2001a).

A descriptive study by Mead, Bower, and Hann (2002) utilized observational techniques to determine the relationship between patient-centered behaviors and patient satisfaction and enablement during 173-videotaped general practitioner consults. The general practitioners were recruited by invitation through a university research network around Manchester, Birmingham, and Exeter of the United Kingdom. Participants were approached while waiting for a regularly scheduled appointment with a practitioner. The consults were analyzed using an adaptation of category groups of the Roter Interaction Analysis System (RIAS), an analysis system that has been utilized in previous studies. Patient-centeredness was operationalized using Mead and Bower's (2000) five constructs: biopsychosocial perspective; patient as person; sharing power and responsibility; therapeutic alliance; and doctor as person. Patient satisfaction was rated according to an eighteen-item Consultation Satisfaction Questionnaire (CSQ) and a six-item Patient Enablement Instrument (PEI) measured enablement. Internal

reliability, concurrent validity and construct validity have been established in the UK for the CSQ. There has been demonstrated high internal reliability with the PEI; however, construct validity has not been thoroughly established. In this study, there was no significant association between patient-centeredness and patient satisfaction or patient centeredness and enablement. Potential flaws identified with this study was lack of construct validity and the difficulty with operationalization of patient-centeredness as were potential validity problems with instrumentation used for outcome measures.

Wolf, Lehman, Quinlin, Zullo, and Hoffman (2008) evaluated patient centered nursing care, patient perception of quality of care, and satisfaction with care in their quasi-experimental study involving a convenience sample of 18 patients undergoing planned bariatric surgery. Potential participants were approached during a routine office visits and asked about participation. Patient-centered care (PCC) involved registered nurses coordinating care with patients pre and post-procedure. Prior to the start of the study, PCC nurses were trained in enhanced communication, negotiation of care, and patient education to improve interaction between the nurse and the patient. The seven-item Baker and Taylor Measurement Scale (BMTS) was used to measure patient satisfaction. This scale contains three subscales: 1) purchase intentions (Cronbach's $\alpha=.91$); 2) quality of services (Cronbach's $\alpha=.72$); and 3) satisfaction with services (Cronbach's $\alpha=.71$). There was no statistical significance between the PCC and usual care group when measuring overall satisfaction. However, there was a statistical significance found for satisfaction of services ($M=11.44$, $SD=3.07$, $P=.04$) and quality of services ($M=17.11$, $SD=4.56$, $P=.03$) in the PCC group compared to the usual care group.

Bertakis and Azari (2011) studied patient-centered care in their pre and post controlled one-year cohort study. This study was part of a larger study examining physician practice styles and patient outcomes. Of the first 956 nonpregnant adults who presented without a preference for physician or specialty, 504 were randomized to care in either a family practice clinic or internal medicine second/third year resident clinic. MOS SF-36 was used to evaluate patient perception of health status. Medical visits were videotaped and analyzed for patient-centered practice style using a modified version of the Davis

Observational Code (DOC), a reliable and valid interactional analysis system. Likert scale visit-specific questionnaires, adapted from a longer instrument developed by Ware and associates, were used to evaluate patient satisfaction. Results demonstrated that patient-centered practice style was positively associated with higher patient self-reported physical health status ($p=0.0328$). Patient satisfaction and the association with patient-centered care were only evaluated on the initial visit using regression modeling. There was no significant relationship between these two variables.

Hudon, Fortin, Haggerty, Lambert, and Poitras (2011) conducted a systematic literature review to identify and compare instruments, subscales, or items assessing patients' perceptions of patient-centered care in family medicine utilizing the concepts of patient-centered care as previously identified and reviewed here by Stewart et al. and Mead and Bower. The conceptual framework includes four dimensions: 1) Patient as person or "disease and illness experience;" 2) Bio-psychosocial perspective or "whole person;" 3) Therapeutic alliance or "patient-doctor relationship;" and 4) Sharing power and responsibility or "common ground" (Hudon, Catherine, Fortin, Martin, Haggerty, Jeannie L., Lambert, Mireille, Poitras, Marie-Eve, 2011). Electronic literature searches of MEDLINE, Embase, and Chochrane were completed for English and French articles from 1980-current. Reference lists for articles retrieved were also reviewed. Refworks database and expert authors were used to exclude duplicates and to identify ineligible articles. Twenty-six articles were retained. Standards for Reporting of Diagnostic Accuracy (STARD), an initiative adopted by many biomedical and psychology journals, was used to assess study quality. Two researchers independently assessed global quality scores, compared the scores and reach a consensus on each article. Twenty-one instruments on patient-centered care were covered in the twenty-six articles. All but three of the 21 instruments partially measured "common ground" and all but one measured "patient-doctor" relationship. Only six instruments measure the "whole person" dimension and only five of the instruments at least partially assessed all dimensions of the framework. Five of the articles covered two instruments that measure three or four of the patient-centered care dimensions. The Patient Perception of Patient-Centeredness (PPPC), a Canadian developed tool, demonstrated better recovery from discomfort, alleviations of concern, and better emotional health 2 months after the initial visit.

Patients' perception of patient-centered behaviors was strongly associated with patients' satisfaction with information. Cronbach's α reliability for a global score of patient perception of patient-centered care is 0.71. PPC measures 3 of the 4 dimension of the authors' conceptual framework. The Consultation Care Measure (CCM), a Great Britain model based on Stewart et al's model, assesses all 4 dimensions of the conceptual framework with 5 subscales (Cronbach's α reliability from 0.84-0.96 on the subscales). Patient satisfaction was related to communication and partnership and positive approach to the problem. Patient enablement was more significantly related with interest in effect on life, health promotion, and positive approach.

Patient-centered care is a multi-faceted construct. There have been varying instruments used to measure it, some more similar and use more repeatedly than others. Bertakis & Azari (2011) report: these instruments generally measure the following behaviors:

eliciting understanding and validating the patient within his or her psychosocial context; reaching a shared understanding with the patient of the problem and its treatment; and creating a partnership in which activated patients share in decision making, power, and responsibility (p. 229).

Patient-Centered care and IPCP. Three studies were reviewed that examined some aspects of patient-centered care and IPCP. Shaw (2008) conducted seven patient interviews, three professional interviews, and two interprofessional case conference observations at a Canadian primary care clinic dedicated to interprofessional care in her qualitative study examining the complexities of patient experiences of interprofessional care. Health professionals from the primary care clinic identified patients who were then contacted by letter and invited to participate in the study. Questions guiding the interviews involved patients' understanding and expectations of interprofessional care. All interviews were audiotaped and the transcripts and field notes were analyzed utilizing modified components of voice-centered and grounded theory. Open coding of the transcripts demonstrated patient-centered care as one of the nine categories revealed in the patient transcripts and one of the eight categories revealed in the

professional transcripts. Overall, patients had positive perceptions relative to interprofessional care.

Patients described increased availability of services because of the presence of other health team members that they could see about their health care problems and increased accessibility of the different services of the teams. Patients identified the advantage of the relationship between professionals, making for ease of referral to other professionals, and improving the quality of care they received by other professionals.

Patient-centered care was described in a variety of ways by patients. Professionals, however, saw patient-centered care as an opportunity to include other professionals in patient care to help achieve patient goals and to share the burden of patients' well being (Shaw, 2008).

To achieve a better understanding of patients' perspectives of their experience, Hancock, Bonner, Hollingdale & Madden (2012) analyzed transcripts from eleven semi-structured interviews and six focus group interviews of patients who had been involved in dietetic consultations. This study, part of a larger investigation, involved 33 UK dietitians from various backgrounds and specialties who recruited patients attending routine outpatient dietetic appointments. Two analysts working independently but both using the Framework method utilizing five distinct stages of Pope and Mays examined the transcripts. Findings were reviewed and a list of category themes compiled. A third independent researcher reviewed two interview transcripts and one focus group transcript and compared themes with those originally identified by the first two analysts. This qualitative study revealed various factors that influenced patients' experiences with their dietetic consults. An approach by the dietitian that included the dietitian learning details about the patients, understanding what patients wanted from the consultations, and taking those factors into account when planning interventions for the patients were found to be important to patients. These components were identified as a patient-centered approach. Patients also reported that dietitians were an important part of the health care team and that it was important for members of a multi-disciplinary health team to share information about their medical care and treatment with the entire team (Hancock, Bonner, Hollingdale, & Madden, 2012).

A qualitative focus group study by Bruner, Davey, & Waite (2011) demonstrated patient-centered care themes when collaboration was explored among a variety of health care professionals and

paraprofessionals in 6 different interprofessional group settings in the northeastern United States. Six different interdisciplinary teams of a nurse-managed community health care center serving underprivileged patients participated in this study. A total of 39 staff members on six interprofessional teams participated and included: nurses, social workers, physical therapists, behavioral health consultants, medical assistants, front desk staff, health education outreach coordinators, dentists, dental hygienists, and office managers. Focus group interviews were audiotaped, transcribed verbatim, and then checked against transcriptions for accuracy. Conventional content analysis method was used to evaluate the content and contextual meaning. Open coding was performed independently and then in research teams. Only themes supported by three of six focus groups were classified as dominant themes and retained. Patient-centered appeared as a theme in three of the six groups. One on one relationship with patients and family and community involvement were emphasized as important relative to the patient-centered theme. Having staff and providers that match the ethnic and racial makeup of a center's patient population was also recognized as being important in collaboration and providing care.

While these three studies are heterogeneous in their approaches, they do complement the relationships identified commonly in the patient-centered care studies. Communicating with patients; understanding patients' concerns, context, and point of view; and including patients in the decision-making process are all important aspects of a patient-centered care experience. How these concepts are incorporated into IPCP and group visits is a fundamental purpose of the care provided patients at THW. The following studies review IPCP and group visits relative to patient perceptions.

Interprofessional Collaborative Patient Care. Sommers, Marton, Barbaccia, & Randolph (2000) examined patient reported health status, depression scores, physical functioning, and perceived health status in their controlled cohort study of 543 patients receiving care in a senior care collaborative from 1992 to 1994. The eighteen California primary care physicians that participated were randomized to control or intervention group. The collaborative care intervention involved care by a primary care physician, a geriatric trained RN, and a social worker and included in home care, coordinated office visits, team visits, and monitoring patients via telephone calls between visits. Control care was typical care by a

primary care physician only. Patients in the study: lived at home, were 65 or older, spoke English, had some limitation in activities of daily living, were not terminally ill or with debilitating illness, were under treatment for at least 2 chronic illnesses, or if 2 chronic illnesses were under control had other health risk factors present. Tools used to obtain a composite health status score included: Health Activities Questionnaire, Geriatric Depression Score, 3 checklists (social activities, symptoms, and nutritional habits), a medication list, and the MOS SF- 36. An analysis on the correlation matrix of the individual scores obtained from these tools was completed to obtain the global health status scores. Patients in the intervention group reported a higher mean number of social activities (8.6 to 8.8) compared to the control group (8.9 to 8.6; $P=.04$; 95% CI, 0.02-0.10) and slightly improved overall health (3.2 to 3.2 vs. 3.2 to 3.3; $P=.08$) (Sommers, Marton, Barbaccia, & Randolph, 2000).

A randomized control trial of 200 patients by Finley et al. (2003) studied the effects of a collaborative care model utilizing clinical pharmacists for the treatment of depression at Kaiser Permanente HMO in San Rafael, California. This interdisciplinary treatment model included primary care providers, case managers, and the pharmacist with weekly consultation between a psychiatrist and the pharmacist. Upon starting anti-depressant therapy, primary care providers would immediately refer patients to the study. Patients were excluded if they have been on anti-depressant therapy in the past six months, had evidence of bipolar disorder or other severe psychiatric illness or eminent suicidality, or had active substance abuse or substance dependence. According to study protocol, the clinical pharmacist could titrate anti-depressant therapy and prescribe ancillary drugs such as Trazodone for sleep. There was ongoing communication between the primary care provider and the collaborative team. Patient education was an important component of the model as was frequent phone contact and the use of other behavioral health resources at the medical center. Of the 125 patients in the study, 75 patients were randomized to the intervention group. At 6 months patient satisfaction, measured by a 14 item survey developed by study authors, demonstrated superior satisfaction on all eleven survey items for the intervention group. Statistical significance was found for six of the eleven items. Patients in the collaborative care group expressed greater satisfaction in the personal nature of care, availability of providers to listen, explanation

of why antidepressants were prescribed, explanation of how to take the anti-depressants, and overall satisfaction with the HMO ($p < .05$ on all measures).

A study by Litaker et al. (2003) utilizing a nurse practitioner and physician team versus physician only management of patients with mild or moderate hypertension and non-insulin dependent diabetes examined patient satisfaction and HRQoL scores. Patients with these conditions and without known end-organ complications were directly referred to the study by physicians or recruited by advertisement within the metropolitan Cleveland, OH institution where the study took place. Two previously established instruments, the Health Survey Short Form-12 and the Diabetes Quality of Life (DQOL) questionnaire, were used to measure HRQoL. Patient satisfaction was measured using Ware's developed Patient Satisfaction Questionnaire, with internal consistency and convergent validity established in previous studies. At one-year follow-up, there was no significant change in the mean HRQoL in the two groups. However, there was a statistically significant difference in general satisfaction with care for those receiving the NP/MD ($n=79$) care (+6.2 vs. -1.7 points change, $p=.01$). Two sub-scales of the satisfaction scores were higher at the end of the first year for the intervention group, Communication with Provider (=3.9 vs. -3.0 points; $p=.03$) and Interpersonal Care (+4.4 vs. +1.9, $p=.02$), versus the control group ($n=78$) when compared to baseline values.

A mixed methods study by Adam, Brandenburg, Bremer, and Nordstrom (2010) of 21 medically complex patients who were high utilizers of care was conducted to examine the benefit of interdisciplinary team care. These 21 patients had at least eight or more clinic visits in the past year and their diagnoses included: diabetes, hypertension, or heart disease; asthma or COPD; arthritis or chronic pain; and psychiatric conditions. The frequency of these diagnoses in each group was fairly equivalent. Thirteen patients were non-randomly allocated to an interdisciplinary Care Team approach and ten patients were non-randomly allocated to usual care in the Family Medicine residency clinic. The interdisciplinary Care Team met one hour each week to review the health status of each of the 13 patients. The team consisted of: a faculty physician, four resident physician advisees, the clinic psychologist, a pharmacist, a triage nurse, a certified medical assistant, and the front desk manager. During the one-hour

weekly Care Team meeting, the primary physician summarized the patient's medical, mental, and social health including positive and negative care experiences and the team was asked to make observations and suggestions to improve care. Options to improve care were reviewed at the end of the meeting and recorded in the health record. The primary physician contacted the patient to schedule a free visit to discuss the options and, if necessary, improve the plan of care. At baseline and 6 months, all patients completed questionnaires reporting their overall well-being and their satisfaction with care. At baseline, 50% of each patient group rated their overall well-being as excellent, very good, or good. At six months, 58% of the patients involved in the Care Team group rate their overall well-being in one of these three categories while the rate remained at 50% for the control group. One hundred percent of the control patients were satisfied or very satisfied with their care at baseline and at six months. In the Care Team group, the percentage of patients who were very satisfied or satisfied with their care increased from a baseline of 75% to 92% after six months (Adam P, Brandenburg DL, Bremer KL, Nordstrom DL, 2010). While no tests of statistical significance were completed in this study due to the small sample size, there appears to be some demonstrated positive effect of this interdisciplinary team based approach to care for this group of medically complex patients.

Katon et al. (2010) conducted a single blind, randomized control trial of 214 patients in 14 primary care clinics in an integrated health care system in Washington State. These patients were randomly assigned to usual care or an intervention group in which experienced registered nurses (RN) in diabetes collaborated with a primary care physicians, a psychiatrist, and a psychologist to manage patients with poorly controlled diabetes, coronary heart disease, or both and concomitant depression. Satisfaction with care and quality of life were evaluated using tools developed by the study authors. At twelve month follow-up, patients in the intervention group had greater improvement in quality of life score ($P < .001$), were more satisfied with care of diabetes, heart disease, or both ($P < .001$), and were more satisfied with the care they received for their depression ($P < .001$). This is one of the studies used as the basis for the TEAMcare model that is used by THW for their IPCP approach.

Group Visits. Jaber, Braksmajer, and Trilling (2006) completed a qualitative review of research on group visits completed between the years of 1974 and 2004. There was noted heterogeneity in the seventeen studies reviewed; however, the authors concluded that there appears to be consensus that group visits improve patient satisfaction, quality of life, and quality of care indicators. Significant favorable patient satisfaction outcomes were reported in five studies, mostly involving chronically ill patients and patients with diabetes. Patients with low socioeconomic status also report increased satisfaction with group visits. In two randomized control studies that did not demonstrate statistically significant patient satisfaction with group visits, there was low attendance rate at the group visit and long intervals between sessions. For patients with higher levels of participation, there was greater satisfaction with group visits. In regards to quality of life, five studies demonstrated improved quality of life for patients involved with group visits as compared to controls. Participants in these studies were diabetic, chronically ill, were involved in a headache management program, or were mothers attending well-child group visits. In this review, outcomes for depression and physical functioning were not as improved as they were for quality of life indicators.

A Cochrane systematic review (Deakin, McShane, Cade, & Williams, 2005) of group based patient-centered diabetes training programs was completed. This review included randomized control trials (eight) and controlled clinical trials (three) that involved group-based education programs for type 2 diabetics in primary or secondary care in the U.S. and Europe. Clinical, lifestyle, and psychosocial outcomes were measured including quality of life and empowerment/self-efficacy. One of the studies reviewed overlapped with the studies reviewed in Jaber et al. (2006). Two studies measured quality of life and one measured treatment satisfaction. At four, six, and twelve to fourteen months, there was no evidence that group visits improved quality of life except in food and drink variables in one study. This study, by Deakin in 2003 (as cited in Deakin et al., 2005), found that group participants had enhanced: freedom to eat (difference 1.7; 95% CI 0.8-25; $P < 0.001$); enjoyment of food (difference 1.2; CI 95% 0.2-2.1; $P = 0.046$); and freedom to drink (difference 1.5; 95% CI 0.4-25). The questionnaire used in this study was not identified but was reported by Deakin et al. (2005) to be validated. Another study by Trento in

2001 and 2002 (as cited in Deakin et al., 2005) using a translated and revalidated diabetes quality of life questionnaire reported significant improvement in quality of life for participants of group visits at two (P<0.001) and four years (P<0.009). The Deakin study from 2003, using a validated questionnaire to measure satisfaction, also reported significant improvement in satisfaction among group participants at four months (difference in score 4.4; 95% CI 2.6-6.6; P<0.001) and 14 months (difference in score 3.7; 95% CI 1.5-6.0; P=0.002). The authors concluded that there is evidence that group education programs may have some long-term benefits for improved quality of life and lasting benefits to psychosocial outcomes. They recommended further research on the degree of patient treatment satisfaction, the effect of such programs on quality of life, and the efficacy for ethnic minorities.

Edelman et al. (2012) completed a review of trials comparing shared medical appointments (SMA) or group visits with usual care for the Veterans' Administration. This review focuses on chronic medical conditions, SMAs, and multiple outcomes. Nineteen studies were reviewed, sixteen of which were randomized control trials (RCT). Six of these studies were reviewed previously in Jaber et al. (2006) and one was reviewed in Deakin et al. (2005). Two RCTs and one observational study evaluated the effects of SMA on older adults with diabetes and a history of high health care utilization rates. There was a positive effect on patient experiences for SMA patients compared with usual care. However, the strength of the evidence was felt to be insufficient to estimate an effect of the SMA in older adults with diabetes. There was significant improvement in HRQoL for diabetic patients in five of the six studies reviewed that evaluated this outcome (SMD -0.84; 95% CI, -1.64- to -0.03). Recommendation was made for further studies involving patient satisfaction with SMAs in the form of nonrandomized or cluster randomized, multisite implementation, or qualitative studies.

Summary of Literature Review Findings

A thorough review of the literature related to patient-centered care and patient-perception of interprofessional care and group visits was conducted. Fifteen empirical studies and five literature reviews were included in this review. Seven studies utilized tools with previously established reliability and/or validity to measure patients' perceptions of patient-centered care, patient satisfaction or HRQoL. Three

studies used surveys developed by the study authors to determine patient satisfaction and quality of life. Two systematic literature reviews analyzed studies using instruments with validity established in previous studies to measure patient satisfaction and HRQoL. One systematic literature review analyzed evaluated studies using instruments with established reliability and validity to measure patients' perceptions of patient-centered care in primary care.

There are various measures and outcomes in the studies examining IPCP. However, there appears to be generally positive perceived HRQoL and measures of patient satisfaction. Relative to group visits, the published data reports varying degrees of patient satisfaction and improvement in health related outcomes. Patient-centeredness studies have largely identified components of patient-centered care as: understanding the patient, validating the patient's psychosocial context, and integrating the patient's wishes into a shared decision making about care. Concentrating on patient-centered dimensions of IPCP was the focus of this DNP project, expanding on the data and information found in the literature. Utilizing the IOM's framework of Core Competencies for Health Professionals with *patient-centered care* at the heart of the model linked with *evidence-based practice* and encircled by *working in interdisciplinary teams*, determination of the patient-centeredness of THW's IPCP group visit model and TEAMcare approach was done by modifying a tool that has been used for evaluation of the patient-centered dimension of collaborative practice, the Interprofessional Collaborative Assessment Rubric (ICAR). This rubric was used in the development of the Canadian Interprofessional Collaborative Competencies and contains key components of patient-centered care as identified here.

Chapter Three: Methods

Project Design

The purpose of this project was to describe the extent to which IPCP at THW provides patient-centered care. The study author used a survey method for this evidence-based practice project. The survey items consisted of four phrases and one open-ended question. The four phrases of the survey were read to participants and answered on a five point Likert scale. The open-ended question allowed participants the opportunity to give any additional feedback they had regarding their experience with interprofessional collaborative care. The survey items for this project were modified from the patient-centered care component of the *Interprofessional Collaborator Assessment Rubric* (Curran et al., 2010). This rubric (Appendix E) is designed for interprofessional collaborative learners and providers as an assessment tool. It is based on interprofessional competencies and its development was guided by an interprofessional advisory committee comprised of educators from the fields of medicine, nursing, pharmacy, social work, and the rehabilitative sciences (Curran et al., 2011). The rubric dimensions concerned with patient-centered care were adapted to address the patient's perception of the care received rather than the professional's perception of interprofessional collaborative care.

Nursing students from the Ohio State University College of Nursing program who were interested in volunteering at THW or participating in an independent study class involving the evaluation of patient-centered care in an interprofessional primary care practice were recruited as volunteers to survey patients by Margaret Graham PhD, College of Nursing faculty, and Kristie Flamm DNP, project director/doctoral student. Dr. Graham served as faculty for the independent study class. The nursing students completed CITI training, conflict of interest documentation and were trained by Ms. Flamm to administer the *Interprofessional Collaborative Practice & Group Visit Patient-Centered Approach* Participant Surveys to project participants.

To ensure the protection of human subjects and to comply with The Ohio State University's policies and procedures, an expedited review was obtained from the Institutional Review Board (IRB) of The Ohio State University. The expedited review was based on the fact that a survey format was used to

obtain patient perceptions of IPCP and only general, de-identified data was recorded.

Sample

Sampling for the survey was a convenience sample of adult patients over the age of 18. The patients approached about participation were adult patients who had been involved in TEAMcare for at least two months prior to the survey period. Sampling was also intended to include patients who had participated in the interprofessional collaborative group visits on at least two occasions prior to the beginning of the survey period. However, no eligible patients were present at the two group visits that occurred during the survey period so these patients could not be included in the sample.

All patients who were currently or had previously been involved in TEAMcare for a period of at least two months were mailed a letter (Appendix G) describing the project. A total of 56 letters were mailed to eligible potential participants. This letter introduced the project and also informed potential participants that a volunteer, not associated with THW staff, would be calling the patient to inquire about their willingness to participate in the survey process. An introduction to the survey (Appendix H), similar to a recruitment script, and a copy of the consent form (Appendix I) were also mailed to the potential participants so that they had an opportunity to read the consent form prior to having the consent form read to them by the student volunteer. Student volunteer surveyors called all of the TEAMcare patients who received a letter to inquire about their willingness to participate in the project. The student volunteers made the calls from the conference room at the THW. For confidentiality purposes, only the student volunteers occupied the conference room during the survey call process. A verbal recruitment script (Appendix J) was read to the potential participants and their questions were answered. Once a potential participant agreed that they were interested in participating in the project, the consent form was read to the participant and the student volunteer obtained their verbal consent.

In an effort to maintain participant privacy during the recruitment process, potential participants were instructed that only demographic information and survey items would be collected. The survey process continued over a period of one month from January 23 – February 22, 2014, during which time a 43% response was achieved. At the end of that month, 17 of 24 respondents provided the same answer on

three of the four Likert items representing 70.8% agreement on the three items. Additionally, 58.3% of the respondents provided the same response on the fourth survey item. Data collection ceased due to the high response agreement and the 43% response rate that had been achieved. An additional 34% of potential participants were either unavailable or uninterested in participating. Nine percent of the potential participants could not be reached due to disconnected phones.

No surveys were collected during group visits. Two group visits occurred during the survey period. However, there were no participants at the group visits that qualified for project participation. Specifically, patients at the group visits were not: 1) a TEAMcare patient; or 2) present during at least one other group visit. Data collection ceased after the second group visit as data collection had been in the process for one month, there was a 43% response rate to the phone surveying of TEAMcare patients, and there was a noted high response agreement of 70.8% on three of the four survey items.

Data Collection Procedures

The student nurse volunteers obtained verbal consent from TEAMcare patients and administered the survey to the participants over the phone. As noted previously, consents were not obtained from group visit participants, as there were no eligible participants at either of the two group visits during the survey period. The doctoral student/project director trained the nursing student volunteers in: explanation of the project to potential participants; delivering the verbal script to potential participants, reading the consent form; answering questions appropriately; obtaining informed consent both in a written and verbal manner, and in administration of the survey and completion of the participant demographic form. Once an individual agreed to participate in the survey project, the student volunteer read the consent form to the participant prior to proceeding with obtaining consent. Participants were informed that results of the surveys would be shared with the other participants once the project was completed and results were finalized. Sharing of the results occurred in the form of a very broad report of results so that there could be no determination of who responded to which survey questions in what manner. This broad report was presented as a flyer posted in the office entry way and in each of the exam rooms of the THW suite. Survey results were posted for a three-month period following the finalization of the results.

There were several anticipated barriers to the survey method. One such barrier included lack of patient participation due to concern about THW staff being aware of participant answers. This was a potential barrier since the project director/doctoral student is also the director of THW. This concern was addressed primarily by having survey administrators who were not directly connected with THW. It was expected that this approach would enable patients to feel as if they could speak freely in response to the questions asked and that they also would be able to verbalize their perceptions and opinions of the IPCP. During the recruitment phase, patients were informed that THW staff would not be present during the collection of the survey information and that only non-individually identifiable demographic information would be collected with the surveys. Surveying TEAMcare patients by phone and when they were not in the office for an individual appointment with a provider was done in order to help protect the privacy of these potential participants. Potential participants also were informed that the overall goal of the project was to describe the extent to which THW IPCP is patient-centered and to try to enhance patient-centered care by review of the results. The expectation was that potential project subjects were more likely to participate if they had this assurance.

While the nursing student volunteers were the patient participants' contact for the administration of the survey, these volunteers had as their direct oversight the THW Director/doctoral student. This direct oversight was important in the case of any unexpected event that might occur during administration of the survey. For example if the patient participant had any physical complaint, the student volunteer reported this immediately to the Director who would handle it according to the standard office protocol.

Another anticipated barrier to patient participation was the inconvenience of the time spent to complete the survey. At the time that each potential participant was called about the project, they were instructed that they would have their choice of one of three incentives to help to compensate them for their time and effort. Participants were able to choose from: 1) a pedometer; 2) a free Day Fare COTA (Central Ohio Transit Authority) bus ticket; or 3) an OSU East Seasons Café \$5 lunch ticket. In order to safeguard the privacy and identity of the TEAMcare participants who were surveyed by phone, their incentive was sent to them directly by the volunteer who surveyed them. Prepaid envelopes and mailers

were provided to the volunteers ahead of time. The volunteers asked the participant their address. The volunteer addressed the appropriate envelope or mailer during the phone call and placed the incentive of choice in the envelope or mailer. These packages were kept in a closed bag in the conference room during the day while phone surveys were being collected and were not left unattended by volunteers at any time. It was the responsibility of one of the volunteers to take these packages containing the incentives to the mailroom at OSU East or to a nearby mailbox at the end of each survey day.

Instruments

Participant survey questions were taken from the *Interprofessional Collaborator Assessment Rubric* (Appendix E) patient/client family-centered care dimension. This rubric was designed for use with interprofessional students and professionals to assess collaborative competencies. The collaborative competencies were used to support the development of the Canadian Interprofessional Health Collaborative (2010) six-competency domains (Curran et al., 2010). The development of the competencies and content validity of the rubric occurred through a mixed- methods study by Curran et al. (2011) that utilized literature reviews, the Delphi technique, and focus groups. A second Delphi survey was completed after changes were made to the rubric based on the recommendations of the experts following the first Delphi survey. The *Interprofessional Collaborator Assessment Rubric* (ICAR) is scored on a 4 point Likert scale with a 1 being minimal engagement in the particular dimension and a 4 being mastery of the dimension. Mean rating results from the Delphi surveys were high for the *collaborative patient/client-family centered approach*. The mean rating for importance on the second Delphi survey was 4.92-5.00 and the mean rating for clarity was 4.27-4.82. There is no documented reliability of this rubric noted in the literature.

The four dimensions contained in the patient centered approach are: *patient/client input*, *integration of patient/client beliefs and values*, *information sharing with patient/client*, and *patient advocacy in decision-making*. These dimensions were rephrased on an initial patient questionnaire so that they reflected the patient's perception of these patient-centered qualities relative to their experience with

interprofessional care. For example, in regard to the first dimension, *patient/client input*, the statement and five point Likert response for the participant response appears as:

The interprofessional collaborative practice team (IPCPT) seeks input from me.

1= Never 2=Very Little 3=Sometimes 4= Most of the Time 5= Always

Each of the three remaining dimensions of the patient-centered approach domain were also modified in this manner with the Likert scale attached to each statement. Finally, to gather additional comments from the participants, the question was added: “Is there anything else you would like to add about your experience with the interprofessional care and group visits and/or TEAMcare?” The initial version of the modified questionnaire is located in Appendix K.

The modified ICAR rubric participant questionnaire was sent to a subject specialist in grade appropriate reading level for patients (D. Moyer, personal communication, February 17, 2013). This was to ensure that when the questionnaires were read to participants, they comprehended what was being asked. The reading grade level of the modified survey is the eighth grade level. To obtain input related to clarity, several other health care and non-healthcare professionals also reviewed this modified version of the survey questions. Several modifications of the survey wording were made from these recommendations. A statement was added as an introduction to the definition of “Practice Team” at the beginning of the survey at the recommendation of the subject specialist. The use of “Practice Team” was thought to help minimize the number of words needed to refer to the intercollaborative practice care team and to simplify the term (D. Moyer, personal communication, February 17, 2013). Names of the individuals of the THW Practice Team were also added to provide clarity for the participants. This final version of the survey is in Appendix L.

The four ICAR patient-centered dimensions used in the Participant Survey are consistent with what information there is in the literature regarding the meaning of patient-centered care in interdisciplinary or interprofessional practice as reviewed in the literature, the evolution of the term as described by Conway et al. (2006) and the instruments generally used to measure patient-centered behaviors (Bertakis & Azari, 2011). These dimensions of the ICAR are also consistent with the IOM

(2001) report: *Envisioning the National Health Care Quality Report* patient centeredness definition that includes components of partnerships between practitioners, patients and their families, respect for patients' wishes, wants, needs, and preferences and supporting patients' educational needs so that they can participate in their own care and make decisions for themselves regarding their care.

Chapter Four: Findings

Results

The purpose of this evidence-based practice project was to describe the extent to which IPCP at THW provides patient-centered care. A survey of patients from the NP led interprofessional collaborative practice was conducted to determine the extent to which the patients receiving the IPCP care perceive their care to patient centered and to describe the suggestions patients offer about patient-centered care when asked about their experiences with IPCP care. Twenty-four participants responded to the survey, which represented a 43% response rate. All respondents completed the four survey items in entirety. Ten participants responded to the qualitative question. This represented a 29% response rate to the qualitative question. All participants completed the demographic questions with the exception of one participant who declined to give an annual income. The survey results are noted in table format in Appendix N & O and the collected demographic information is located in Appendix P (Tables 3–5). A more complete discussion of the results occurs below.

Results of the survey demonstrate that this sample of patient participants perceive the THW IPCP team approach as being highly patient-centered in nature. The mean survey responses on all four survey items fell between 4.25 and 4.5 on a Likert scale of 1-5. The mode and median for all four survey items was “5.” The majority of participants responded that the practice team (IPCP team) “always” or “most of the time” exhibits the patient-centered dimensions encompassed in the four survey items:

- 1) The Practice Team asks me for my thoughts about my care
- 2) The Practice Team considers what’s important to my living situation and me in planning my care.
- 3) The Practice Team provides health care information to me and gives me options for treatment.
- 4) The Practice Team tries to include me in decisions about my care and treatment.

Categorization of qualitative question responses demonstrated two general themes: 1) the team is good and helpful; and 2) the team is informative. The theme of “good and helpful” was reported in five of

ten total open-ended question responses. This theme was represented by statements such as: “They are all extremely helpful people;” “A great experience with the practice team and the team has worked with blood pressure well;” and “Good Team!” The theme of “informative” was described in two of the ten total responses. This theme was represented by these comments: “Everyone is very nice and informative. I’ve never had a bad experience. I’m crazy about Dr. Stone and the nursing staff. They are a blessing to me;” and “Very pleased and happy to finally have a [doctor]. They explained everything to me and they were very kind to me.” One respondent commented on the care and respect offered by the team: “They treat me with so much care and respect and they make me want to be a healthier person. They are a blessing in my life and the group visits have been so wonderful.” Two additional responses were more specific to practice procedure.

The majority of the respondents (19 of 24) were African-American. Eleven of the 24 respondents reported an annual income of less than \$10,000/year. These demographics are characteristic of the practice population. The average age of the participants was 54.2 years. There were fourteen female and ten male participants. Participants reported being involved in TEAMcare for an average of 8.9 months, which is presumably enough time to have had adequate exposure to the IPCP care process. The range of months that was reported by participants was 1-24 months; however, only patients who had been involved in TEAMcare for two months or more were contacted to participate and THW had only been open for 12 months when the survey period began. Participants reported attending an average of 5.5 group visits. Because of the low attendance at the THW group visits, this data is thought to be inaccurate and related to a misunderstanding of the survey item. After the first survey collection day, discussion of the recall issue related to the number of months on TEAMcare and misunderstanding of the Group Visit statement was discussed with the student volunteers so that the items were clearer to participants during subsequent surveying.

The mixture and combination of the four diseases reported demonstrates that a sample of TEAMcare patients with a variety of the four disease processes was achieved as desired. Only seven of the twenty-four participants reported a singular disease process, hypertension or diabetes. The remaining

seventeen participants related multiple disease processes with six participants having all four of the diseases: diabetes, hypertension, hyperlipidemia, and depression. There was a fairly uniform distribution of reported disease processes, with hypertension occurring most often and depression occurring least often. Reported disease processes identified by participants are summarized in Appendix Q (Tables 6 and 7).

Discussion

The four Likert scale survey items address the foundation of patient-centered care. These items address significant components of patient-centered care as outlined in the literature and were modified from the patient-centered care dimension of the Interprofessional Collaborator Assessment Rubric (ICAR). Professionals and students use this rubric to assess collaborative competencies and the collaborative competencies of the rubric were used to support the development of the Canadian Interprofessional Health Collaborative (2010) six-competency domains. The most significant components of patient-centered care that the four survey items address as found in the literature are: understanding the patient, validating the patient's psychosocial context, and integrating the patient's wishes into shared decision making about care. These components were also noted in the literature to be significant components of studies examining patients' experiences with IPCP.

The high percentage of participants that rated the IPCP team with a "5" on each of the survey items, the high mean scores on each item, and the "5" identified as the median and mode for each item demonstrates that this sample of patients perceive the care provided by this IPCP team to be patient-centered. Categorization of open-ended question responses reveals that twenty-nine percent of respondents (the percentage who responded to the open-ended question) found the IPCP either "good and helpful" or "informative." These additional comments could be interpreted as satisfaction statements, which would be consistent with the literature that reports positive perceived patient satisfaction with patient-centered care and IPCP. Additionally the number of multiple chronic diseases reported by participants of this project and the high frequency with which the participants rated the patient-centered nature of their IPCP experience is consistent with literature reports of the positive effect of an

interprofessional team-based approach to managing medically complex patients (Adam P, Brandenburg DL, Bremer KL, Nordstrom DL, 2010; Katon et al., 2010).

In regards to moving forward with a sustainable and valid approach to collecting data around the patient-centered nature of IPCP care relative for at risk patient populations, consideration must be given as to what might be the best method to determining this purpose. This survey used for this project was modified from a tool that has established validity but only when the tool is used for the purpose of learners and practitioners assessing IPCP. The larger question is what is the best way to assess an at risk patient population's perception of care. There is some concern as to whether the wording of the survey items were meaningful to the participants in the way they were intended to be meaningful. Cognitive interviewing might be an approach that could be used with this survey to help further refine the tool and to ensure that the survey items are meaningful to the population (Willis, 2005).

Conclusions

The results of this project reveal that an interprofessional collaborative NP led practice providing care to an underserved and at risk population with multiple chronic diseases carrying significant morbidity and mortality can deliver primary care that is perceived by patients to be highly patient-centered. While one cannot base recommendations for this practice delivery model to include group visits since those could not be included in this analysis, recommendations can be made for interprofessional collaborative practice care. Specifically recommendations can be made for an IPCP model such as the TEAMcare model, which is utilized at THW. TEAMcare has been modified to a degree from its original physician led HMO format, the model in which it was originally studied and utilized, to accommodate the THW patient population and the NP led practice model.

Interprofessional collaborative practice that utilizes primary care nurse practitioners, dietitians, pharmacist, social workers, licensed professional counselors, psychiatric mental health nurse practitioners, and an RN Case Manager is a model of care that this project's participant population perceived as patient-centered. This model includes integrated mental health care, collaborative goal

setting with the patient, practical care planning, and consistent targeted multidisciplinary team managed care.

A more in depth look at the calculated mean of each of the four survey items reveals that the first two items have lower mean scores than the last two. That is the statements: “The Practice Team asks me for my thoughts about my care and treatment” and “The Practice Team considers what’s important to my living situation and me in planning my care” were rated lower overall in respect to how often respondents felt these behaviors occurred by the IPCP team. This was a subtle difference but the mean for these two items were 4.375 and 4.25 respectively on the 1 – 5 Likert Scale. This is in contrast to the last two statements: “The Practice Team provides health care information to me and gives me options for treatment” and “The Practice Team tries to include me in decisions about my care and treatment.” The mean for these items were 4.5 and 4.458 respectively. The difference in these calculated means may suggest that members of the IPCP team are less likely to validate the patient’s psychosocial context than they are to share healthcare information, provide options for treatment and integrate the patient’s wishes into care allowing for shared decision making about care and treatment. Given that there are a variety of psychosocial stressors for this particular population of patients, special attention to the psychosocial context cannot be emphasized enough in order to provide care that not only integrates their wishes but also more completely permits them to participate in shared decision making, power, and responsibility allowing them to enjoy full patient-centered care (Bertakis & Azari, 2011).

Chapter Five

Study Summary

The purpose of this DNP project was to describe the extent to which IPCP at Ohio State THW at University Hospital East provides patient-centered care. THW opened in January 2013 to establish IPCP care for an at risk population with high-risk chronic diseases associated with high morbidity and mortality. IPCP and team based care has been recommended by multiple organizations and national bodies (Agency for Healthcare Research and Quality, 2010; Institute of Medicine, 1972; Institute of Medicine, 2003a; Josiah Macy Jr. Foundation, 2010; Kaiser Family Foundation, 2011; O'Neil & PewHealth Professions Commission, 1998). The Institute of Medicine (2003) has also identified patient-centered care as one of the six aims for improvement in health care to better meet patients' needs in the 21st century. The Canadian Interprofessional Health Collaborative (2010) and the American Collaborative Expert Panel (2011) have established core competencies for IPCP that have patient-centered care as critical to their frameworks.

The IOM (2011), AONE, and AACN (American Organization of Nurse Executives & American Association of Colleges of Nursing, 2012) have identified nursing as being critical to the redesign of healthcare delivery in order to improve outcomes, transform care delivery to make it safer, more effective, of higher quality, and patient-centered. In its 2003 report, *Health Professions Education: A Bridge to Quality*, the IOM presented a framework that identified five core competencies for health professionals: working in interdisciplinary teams, providing patient-centered care, applying quality improvement, employing evidence-based practice, and utilizing informatics. The IOM's 2003 *Core Competencies for Health Professions* is also the identified framework for this project.

The evidence base for this project is multi-faceted. TEAMcare, the IPCP care approach at THW, is an EBP interprofessional care model that utilizes patient-centered collaborative goal setting, practical care planning, and consistent targeted multidisciplinary team managed care. The *Interprofessional Collaborator Assessment Rubric* patient/client family-centered care dimensions were modified to form the survey items for this project. This rubric is designed for use with interprofessional students and

professionals to assess collaborative competencies. The components of the patient-centered care dimension of the ICAR are consistent with findings in the literature review of patient-centered care and IPCP.

The study author utilized a survey approach for this evidence-based practice project. Sampling for the survey was a convenience sample of adult patients over the age of 18 who had been involved in IPCP care, in the form of TEAMcare. Volunteer nursing students who had been trained by the doctoral student/THW director surveyed participants over the phone. Group visits participants were unable to be surveyed as initially planned as there were no eligible participants at either of the group visit that occurred during the one-month survey period. A descriptive analysis of the project sample of the survey group accompanies a quantitative analysis of the survey responses. The results of the Likert scale responses to the four patient-centered statements were tabulated and the results entered into an Access Database that had a query to calculate the mean for each of the four components of the patient-centered dimension. Queries were also designed to calculate parameters for the participant demographics. Answers from the qualitative question were reviewed and categorized according to common themes reported by participants regarding IPCP and patient-centeredness. The themes were reported according to the frequency with which they appear.

Data collection occurred over a period of one month from January 23 – February 22, 2014 at which time 24 surveys were collected and data saturation was reached. At one month, 17 of 24 respondents provided the same answer on three of the four Likert items representing 70.8% agreement on the three items. Additionally, 58.3% of the respondents provided the same response on the fourth survey item. With the high response agreement, a 43% response rate, and the fact that an additional 43% of potential participants were either unavailable during the call periods, uninterested in participating, or could not be contacted due to disconnected phone numbers, data collection ceased.

No surveys were collected during group visits. Two group visits occurred during the survey period. However, there were no participants at the group visits that qualified for project participation.

Specifically, patients at the group visits were not: 1) a TEAMcare patient and/or 2) present during at least one other group visit.

All participants answered all four survey items. Participants rated the IPCP care of THW to be highly patient-centered. The mean for survey responses on all four items fell between 4.25 and 4.5 on a Likert scale of 1-5. The mode and median for all four survey items was “5.” Categorization of the open-ended question demonstrated two themes: 1) the team is good and helpful; and 2) the IPCP is informative.

The average age of participants was 54.2 years and the majority of the respondents were African-American. Eleven of the 24 respondents reported an annual income of less than \$10,000/year. There were fourteen female and ten male participants. Participants reported being involved in TEAMcare for an average of 8.9 months, which is presumably enough time to have had adequate exposure to the IPCP care process. This data calculation was not completely valid as some participants reported being on TEAMcare 1 month and others as long as 24 months when TEAMcare had been operational for just under 12 months. There was also reporting of significantly higher number of group visit attendance than there have been attendees at group visits. For that the reason, the 5.5 average number of group visits attended is thought to be invalid. The recall issues were discussed with the student volunteers after the first data collection day so that these two questions were made clearer to participants during subsequent surveying. The mixture and combination of the four diseases reported demonstrates that a sample of TEAMcare patients with a variety of the four disease processes was achieved as desired.

The results of this project reveal that an interprofessional collaborative NP led practice providing care to an underserved and at risk population with multiple chronic diseases carrying significant morbidity and mortality can deliver primary care that is perceived by patients to be highly patient-centered. While the patient-centered nature of interprofessional collaborative care relative to group visits could not be assessed with this project, a general assessment of patient-centered care relative to interprofessional collaborative practice can be made in this patient population and setting. Recommendations can be made for an NP led primary care interprofessional collaborative practice model

that utilizes primary care nurse practitioners, dietitians, pharmacist, social workers, licensed professional counselors, psychiatric mental health nurse practitioners, and an RN Case Manager. This model includes integrated mental health care, collaborative goal setting with the patient, practical care planning, and consistent targeted multidisciplinary team managed care.

Limitations

Limitations of this project were noted due to both external and internal constraints and relate to limitations of the survey tool, environment in which the survey was administered, and factors operating at the THW practice just prior to the onset of the survey period.

Internal validity concerns surrounding the survey tool were noted as a contribution to limitations of the project. Notably wording of the survey tool was found to be confusing for some project participants. Even though the wording of the survey tool was modified prior to the onset of the project both for simplicity and for grade level, the initial introduction to explain the meaning of “practice team” and the need to name all of the team members required active listening on the part of the participant. Additionally while some participants knew they had been seen by multiple providers in the office and had been contacted regularly by the RN case manager, they did not necessarily identify this as being on “TEAMcare.” One participant actually reported not knowing any of the other team members with the exception of the primary care NP. All of the information presented to participants at the beginning of the survey may have resulted in confusion. Additionally this confusion may also have limited the ability to recruit all potential participants, as they may have not understood their qualification to answer the survey questions.

The survey was sent to a subject specialist and was adjusted to an eight grade reading level; but, the reading level may not have been adjusted to an appropriate grade level. In the intervening months between modification of the survey tool, during IRB approval period, and the beginning of the survey period, it became evident that many patients of the practice have great difficulty reading. Reading to the participant likely assisted with the illiteracy problem; however, comprehension may still have been an issue for participants. Interviewing participants over the phone may also have been a barrier to

comprehension of the survey items and demographic questions. Participants also may not have felt comfortable with answering survey items with complete honesty when being surveyed over the phone by someone they had never met and had not personal connection with.

Another potential concern regarding the survey includes specific content of the four survey statements. While the survey was adapted from the ICAR with the intent of staying true to the meaning of each patient-centered care dimension of the ICAR, within each survey item there is what would be considered two sub items. For example, the first survey item: *The Practice Team asks me for my thoughts about my care and treatment*. Care and treatment could mean two different things to the responder. The second survey items asks about *my living situation and me*. Again, an individual's living situation and the individual are two different things. The third survey items states: *The Practice Team provides health care information to me and gives me options for my treatment*. Providing health care information and giving options for treatments, while they often occur together in patient-centered care, are two separate activities. The final survey item addresses the Practice Team including the patient in decisions about *care and treatment*. As noted before care and treatment may mean two different things to the responder. These sub items within each survey statement could have caused confusion and made it more difficult for participants to answer with complete accuracy about the perception of their care. Cognitive Interviewing may be a solution to refining the survey items (Willis, 2005). Dividing these sub items into separate survey statements would likely be beneficial, as well.

External concerns involved difficulty with contacting potential participants for surveying. This population of patients is known to be difficult to get in touch with. This difficulty is due to the transient nature of the population and the low socioeconomic nature of the population resulting in phones often being turned on and off on an inconsistent basis and/or phone numbers changing regularly or the individual using someone else's phone number as a contact number. While only four potential participants were reported by the volunteers as not being able to be contacted due to disconnected phones, there were other potential participants that the volunteers were unable to get in touch with due to being told by someone who answered the contact number that the patient was "unavailable." This occurred

despite multiple attempts at calling. Additionally, some potential participants told volunteers that they had not received information prior to being called, even though no mailed packets were sent back to the THW office, resulting in participants not having the opportunity to become familiar with the project prior to being contacted by the project volunteers. This barrier resulted in additional time needed to answer questions and in some cases, potential participants declining to participate in the project. Despite these limitations, the response rate was 43% overall for the project.

The low attendance at group visits is another factor affecting participant involvement. Group visit attendance has been a challenge since the initiation of group visits. While the practice team has tried a variety of things to increase group visit attendance, attendance has remained low. Given that the population seen by this practice has tremendous social and financial stressors, having patients come to the office for additional visits, it is believed, may be lower on their hierarchy of needs. Jaber, Braksmajer, & Trilling (2006) reported in their qualitative research review that group visits in populations of low socioeconomic class have had higher patient satisfaction and attendance due to patients' reported: feeling as if they can relate to others of similar circumstances in the group, increased access to multiple healthcare providers at the same time and increased length of time between visits due to group visits. These approaches have all been attempted at THW; yet the approaches have not increased the attendance at group visits. Additional confusion appears to surround participants' understanding of the question about group visits. Many patients answered that they had attended multiple group visits with some reporting attendance at 10-30 group visits. The attendance rate has been so low at THW group visits that it would be impossible for this many patients to have attended this many group visits. It is believed that the participants confused the question about participation in group visits with visits in the office with a variety of providers or total number of visits they have had in the office. In a similar manner, there was some reporting by participants of being involved in TEAMcare for only one month or for as long as 24 months. Inclusion criteria for the project was a minimum of 2 months as a TEAMcare patient and only those patients were sent letters and called for participation. Additionally, THW had only been open for just over 12 months when the survey period began. These reports of one month and 24 months skewed the

mean length of time that patients were noted to be on TEAMcare. After the first survey collection day, discussion of the recall issue related to number of months on TEAMcare and misunderstanding of the Group Visit question were discussed with the student volunteers so that the questions were made clearer to participants. Some of these recall issues were resolved during subsequent surveying.

Additional limitations involve external constraints that could not be controlled and that occurred just prior to the project implementation. There was a flood in the office just prior to the onset of this project necessitating changes in appointments and follow-up with patients for approximately one week in late January 2014. This, of course, was unplanned and could not be avoided and may have affected some participants' perception of the care coordination.

The Director, who had also been practicing as one of the primary care nurse practitioners, stepped down from a primary care provider role during the last week in December 2013 in order to concentrate on the Director role. A new part-time primary care nurse practitioner started at that time. Transition of the care of patients from one primary care NP to another may have influenced patients' perception of care as it can take some time for patients to become comfortable with a new care provider.

Implications for Nursing Practice and to the DNP Essentials

The implications for advanced nursing practice relative to these project findings and this care delivery model as it relates to the DNP essentials (American Association of Colleges of Nursing, 2012) are significant. This project addresses many of the DNP essentials including Essentials I, II, III, VI, and VIII.

Essential I: scientific underpinnings of practice. At the doctoral level, the results of this project have implications for practice as it provides additional evidence for IPCP relative to patient-centered care in an NP directed interprofessional practice that utilizes a team-based approach to care. This project helps to inform and alleviate current health care delivery problems and has, to a degree, evaluated the outcome of the patient-centered care aspect which has been demonstrated to be important from a quality and safety aspect by the IOM (Institute of Medicine, 1972; Institute of Medicine, 2003a; Institute of Medicine, 2003b; O'Neil & PewHealth Professions Commission, 1998). The results of this approach

to care also contribute to the framework from IOM 2003 report *Health Professions Education: A Bridge to Quality*. Evidence-based practice is being utilized in the form of IPCP to provide patient-centered care by way of evaluating patients' perception of that care. The interlocking rings of this framework denote the ongoing scientific underpinnings of doctoral advanced practice nursing.

Essential II: organizational and systems leadership for quality improvement and systems thinking. As previously discussed, the findings of this project are aimed at continuing to inform ongoing practice in this new care delivery model so that the future needs of patient populations can be met (American Association of Colleges of Nursing, 2012). While this project was implemented on a practice level, the results of the project can be used to inform other practices. Repetition of this project, projects that explore financial and sustainability outcomes, and projects that assess the impact on other patient populations are needed. These projects as a whole can inform organizational levels so that health care delivery can continue to be transformed to improve the delivery process and patient outcomes. DNP education provides the nurse with the knowledge and skill to make organizational and system change that affect quality and outcomes (Petersen, 2011).

Essential III: clinical scholarship and analytical methods for evidence-based practice. This essential mandates that the DNP prepared nurse understands how to evaluate the evidence, translate it into practice, participate in quality improvement, collaborate with others in generating knowledge or in disseminating findings all in an effort to improve healthcare outcomes and to promote safe, timely, effective, efficient, equitable, and patient-centered care (American Association of Colleges of Nursing, 2012; Tymkow, 2011). This project has been informed by evidence surrounding the IPCP competencies, the knowledge base surrounding patient-centered care and IPCP. This evidence base has been translated into practice in the form of this current care delivery model at THW and was evaluated based on patient-centered competencies. The results suggest that the IPCP model used at THW is perceived by patients to be highly patient-centered. These results will be used to inform both the THW IPCP practice and will be disseminated on a wider scale to inform others involved in IPCP so that the evidence base can continue to be built around this model of care and the patient-centered care outcome. The caveat of this project is that

the THW practice is an NP led IPCP model. These results in particular add to the knowledge generation for NP led IPCP care delivery models.

Essential VI: interprofessional collaboration for improving patient and population health outcomes. This is arguably one of the most significant DNP essentials that this project addresses. As discussed in Chapter I, IPCP has long been felt to be significant for safe, timely, efficient, equitable, and patient-centered care in a complex health care environment (Institute of Medicine, 1972; Institute of Medicine, 2003a; Institute of Medicine, 2003b; O'Neil & PewHealth Professions Commission, 1998). This project addresses specifically the patient-centered nature of the IPCP care, as perceived by the patient. It is recognized that IPCP is a way to decrease cost, health care mistakes, and increase efficiency (Institute of Medicine, 1972; O'Neil & PewHealth Professions Commission, 1998). These factors are probably a result of including the patient intricately in the decision-making about their care. This project, using the patients' perceptions of their care to evaluate the patient-centered nature of IPCP at THW, is an indirect way to evaluate and improve patient outcomes. With analysis of the data, including the content analysis of the open-ended questions, it could be determined where there may be more complex team issues that are either relevant to the particular practice or to IPCP in general. These issues could be addressed so that IPCP can be improved and thus care delivery improved. What was most notable from these project results was that psychosocial context may need to be of higher concern and attention for the THW interprofessional collaborative team. With dissemination of these project findings, replication of similar EBP projects, and comparable projects directed at differing patient populations and/or outcomes, interprofessional collaboration can continue to evolve to improve population health outcomes, the ultimate goal.

Essential VIII: advanced nursing practice. The advanced nursing practice essential is an integrative one. Pertinent to this essential and the role of advanced practice nurse (APN) as a nurse practitioner, this project prepares the graduate to function in an innovative way with other professionals to address complex patient situations in diverse settings in order to facilitate optimal care. This DNP project relates to this essential in that it requires advanced analytical and conceptual skills to link the evidence

and the care delivery model to patient outcomes and necessitates sharing of that information in a collaborative manner in order for continued practice transformation and improved patient outcomes to occur (American Association of Colleges of Nursing, 2012). This DNP essential moves the NP beyond simple bedside/primary care making the APN responsible in a new way in the changing healthcare environment.

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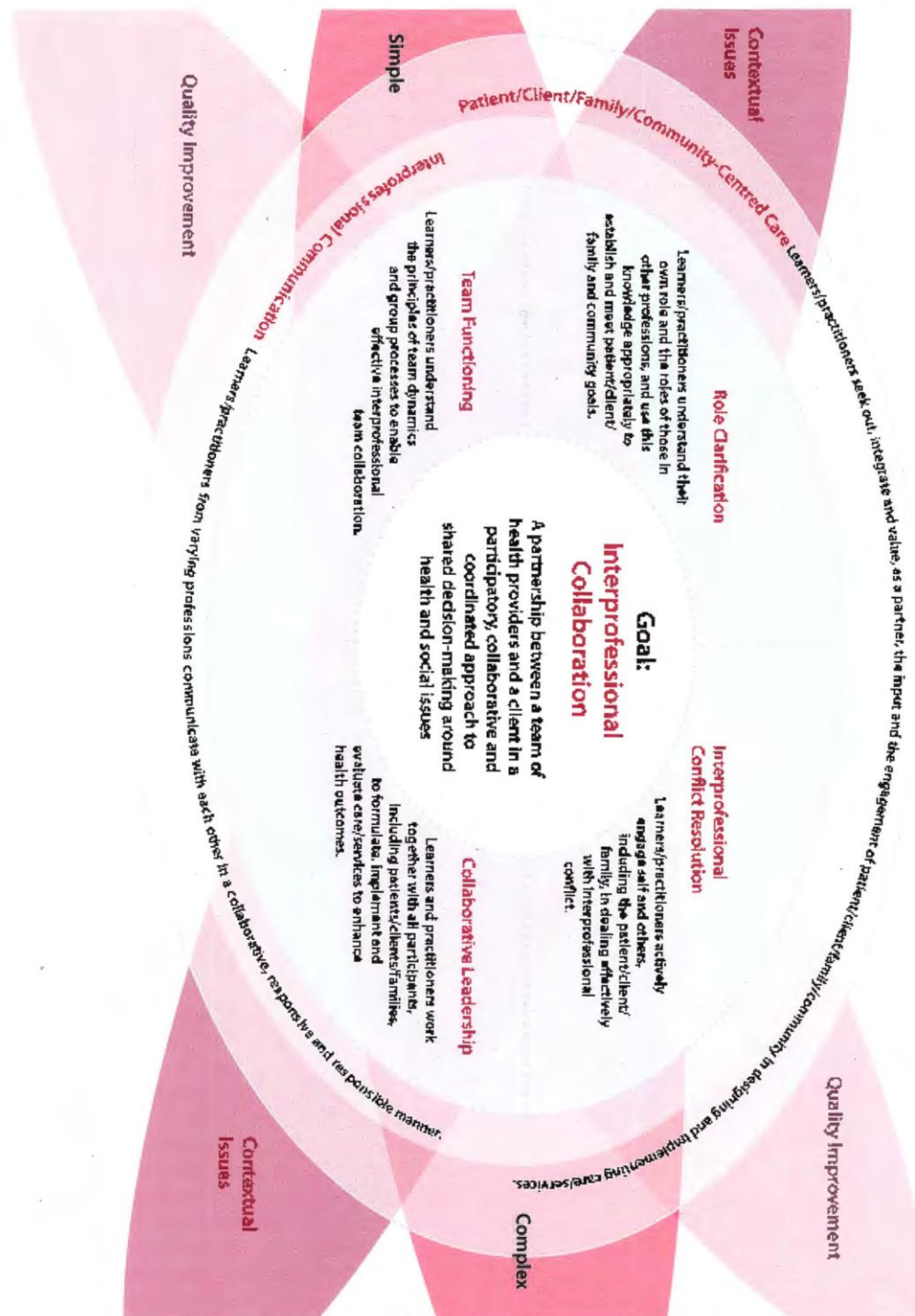
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Appendix A

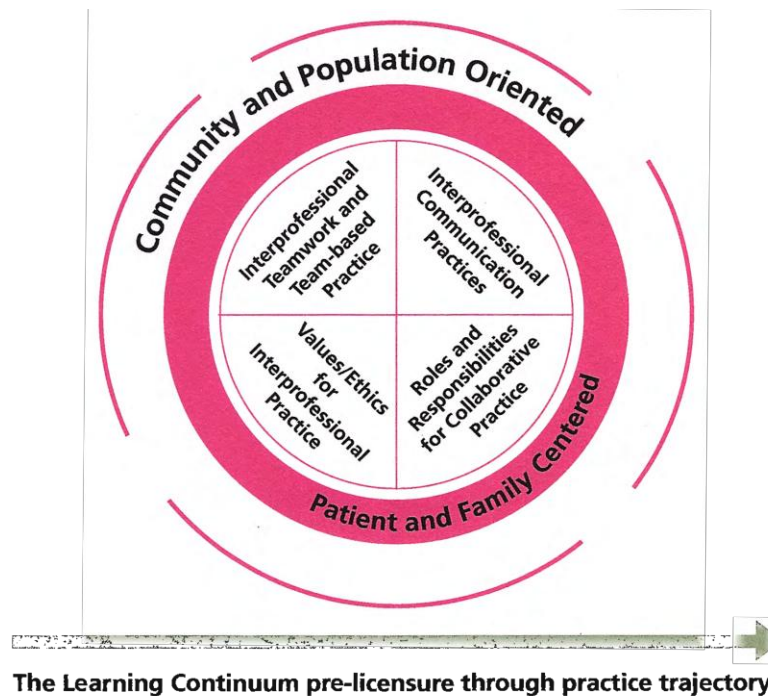
Canadian Interprofessional Health Collaborative Framework



(Canadian Interprofessional Health Collaborative, 2010)

Appendix B

Interprofessional Collaborative Practice Domains

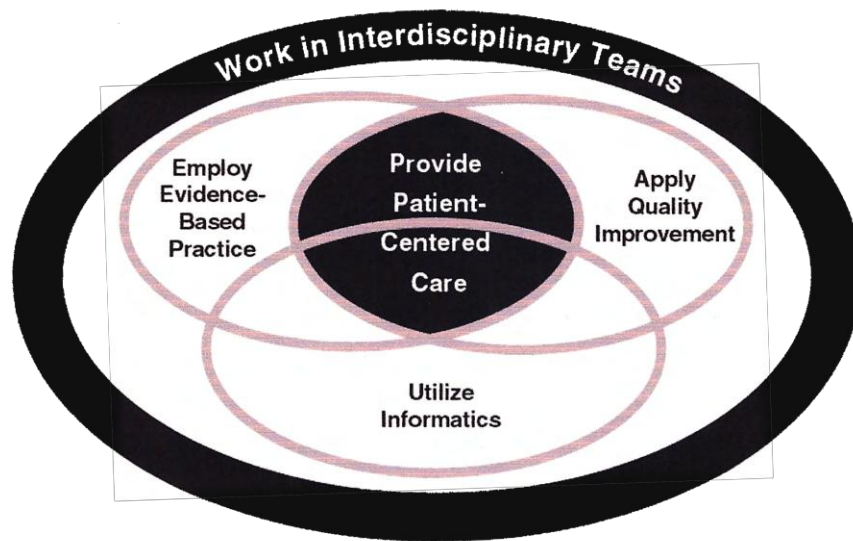


(Interprofessional Education Collaborative Expert Panel, 2011)

Appendix C

Institute of Medicine

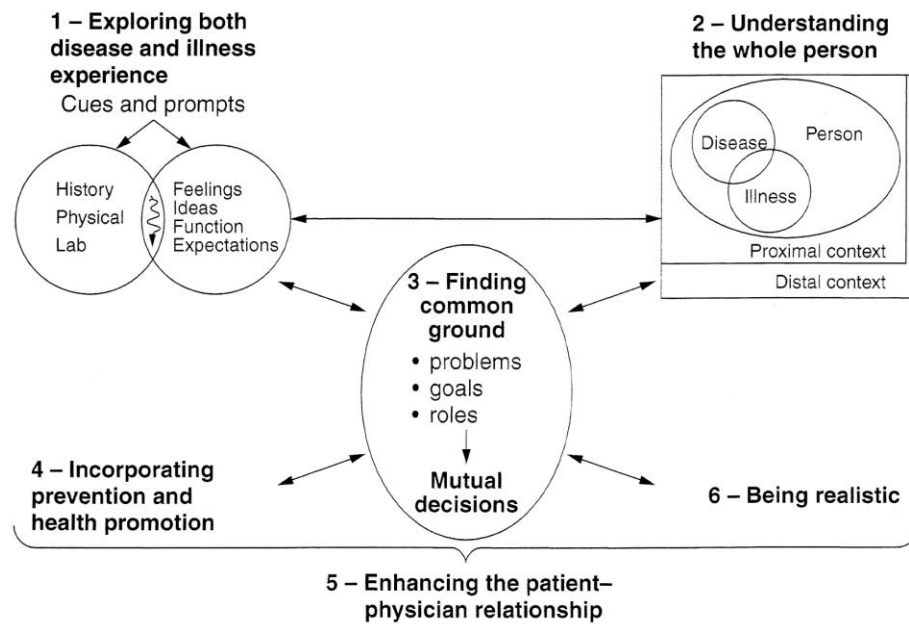
Core Competencies for Health Professionals



(Institute of Medicine, 2003c)

Appendix D

Patient-Centered Clinical Method



(Brown, Stewart, Watson, & Freeman, 2003)

Appendix E

Interprofessional Collaborative Assessment Rubric

Collaborative Patient/Client-Family Centred Approach: Ability to apply patient/client-centred principles through interprofessional collaboration.

1. Seeks input from patient/client and family in a respectful manner regarding feelings, beliefs, needs and care goals.
2. Integrates patient's/client's and family's life circumstances, cultural preferences, values, expressed needs, and health beliefs/behaviours into care plans.
3. Shares options and health care information with patients/clients and families.
4. Advocates for patient/client and family as partners in decision-making processes.

| Dimensions | Not Observable | Minimal 1 | Developing 2 | Competent 3 | Mastery 4 |
|---|----------------|--|---|---|--|
| <i>Patient/Client Input</i> | | <input type="checkbox"/> Does not seek input from patient/client and family. | <input type="checkbox"/> Occasionally seeks input from patient/client and family. | <input type="checkbox"/> Frequently seeks input from patient/client and family. | <input type="checkbox"/> Consistently seeks input from patient/client and family. |
| <i>Integration of Patient/Client Beliefs and Values</i> | | <input type="checkbox"/> Does not integrate patient's/client's and family's circumstances, beliefs and values into care plans. | <input type="checkbox"/> Occasionally integrates the patient's/client's and family's circumstances, beliefs and values into care plans. | <input type="checkbox"/> Frequently integrates patient's/client's and family's circumstances, beliefs and values into care plans. | <input type="checkbox"/> Consistently promotes and integrates patient's/client's and family's circumstances, beliefs and values into care plans. |
| <i>Information Sharing with Patient/Client</i> | | <input type="checkbox"/> Does not share options and health care information with patients/clients and families. | <input type="checkbox"/> Occasionally shares options and health care information with patients/clients and families. | <input type="checkbox"/> Frequently shares options and health care information with patients/clients and families. | <input type="checkbox"/> Consistently shares options and health care information with patients/clients and families. |
| <i>Patient Advocacy in Decision-Making</i> | | <input type="checkbox"/> Does not advocate for patient/client and family as partners in decision-making processes. | <input type="checkbox"/> Occasionally advocates for patient/client and family as partners in decision-making processes. | <input type="checkbox"/> Frequently advocates for patient/client and family as partners in decision-making processes. | <input type="checkbox"/> Consistently advocates for patient/client and family as partners in decision-making processes. |
| Comments: | | | | | |

(Curran et al., 2010)

Appendix F

Verbal Recruitment
Group Visits

- Hello, my name is _____. I am an Ohio State University nursing student and I am a volunteer collecting survey information for the *Interprofessional Collaborative Practice Project*.
- This purpose of this project is to determine to what extent Total Health & Wellness provides patient-centered care to patients who have received care in TEAMcare or in group visits.
- No information will be asked that will be able to identify you during the survey process.
- You will be asked how well you think the practice team that takes cares of you provides patient-centered care.
- The entire process should take less than 25 minutes. There are twelve questions total, 5 questions about the care you receive and 7 questions about you, which include questions about your age, gender, your annual income, and the disease for which you have been seen in group visits or TEAMcare. These include high blood pressure, diabetes, high cholesterol and depression.
- Your name will not appear on the survey anywhere.
- The hope is that patient-centered care at Total Health and Wellness can be improved by the answers to these questions.
- The general results of this project will be posted in the Total Health and Wellness office once it is completed, however no one will be able to tell who has provided the information.
- There is no risk if you choose not to participate in the project. You may feel free to say no and to continue your same care at Total Health and Wellness.
- Those who participate will be able to choose from one of three items as a thank you for their time and effort: 1) a pedometer; 2) a free Day Fare COTA (Central Ohio Transit Authority) bus ticket; or 3) a OSU East Seasons Café \$5 lunch ticket. If for some reason you decide to withdraw from the project once you have started answering the survey questions, you may still choose from one of the three items.

- You will be asked to sign a consent form to participate in the project, if you decide to participate.
This consent form will not be stored with the information that you give to me about your care.
- In order to participate, you must have attended at least two group visits and/or been involved in TEAMcare for two months. If you are unsure how long you have been involved in these programs, we can check with the staff.
- Do you have any questions?

Appendix G

Recruitment Letter
Phone Surveys

Date:

To:

We are writing to you because you are one of our TEAMcare patients at OSU Total Health and Wellness and to inform you that you will be receiving a call from a volunteer within the next several weeks. The volunteer will ask if you are willing to participate in a survey about the patient-centered nature of the care you have received or are receiving from the care team at Total Health and Wellness.

We have enclosed information about the survey project and a copy of the consent form. The volunteer will read both of these to you when they call. You will be required to consent to the project before the volunteer asks you the survey questions. Please feel free to ask the volunteer any questions that you have.

Sincerely,

The Staff of OSU Total Health and Wellness

Appendix H

Introduction to
Interprofessional Collaborative Practice Project

- This purpose of this project is to determine to what extent Total Health & Wellness provides patient-centered care to patients who have received care in TEAMcare or in group visits.
- No information will be asked that will be able to identify you during the survey process.
- You will be asked how well you think the practice team that takes cares of you provides patient-centered care.
- The entire process should take less than 25 minutes. There are twelve questions total, 5 questions about the care you receive and 7 questions about you, which include questions about your age, gender, your annual income, and the disease for which you have been seen in group visits or TEAMcare. These include high blood pressure, diabetes, high cholesterol and depression.
- Your name will not appear on the survey anywhere.
- The hope is that patient-centered care at Total Health and Wellness can be improved by the answers to these questions.
- The general results of this project will be posted in the Total Health and Wellness office once it is completed, however no one will be able to tell who has provided the information.
- There is no risk to not participating in the project. You may feel free to say no and to continue your same care at Total Health and Wellness.
- Those who participate will be able to choose from one of three items as a thank you for their time and effort: 1) a pedometer, which will measure the amount you walk; 2) a free Day Fare COTA (Central Ohio Transit Authority) bus ticket; or 3) a OSU East Seasons Café \$5 lunch ticket. If for some reason you decide to withdraw from the project once you have started answering the questions, you may still choose from one of the three items. The student volunteer will mail the item you choose to you.
- The enclosed consent form to participate in the project will be read to you and then you will be asked for your verbal consent if you agree to participate in the project.

- You will be asked if you have any questions before the consent form is read and you are asked to consent.

Appendix I

**The Ohio State University Informed Consent Script
to Participate in Research**

Study Title: Interprofessional Collaborative Practice: An Assessment of Patient-Centered Care

Researcher: Margaret Graham

Sponsor:

This is consent for research participation. It contains important information about this study and what to expect if you decide to participate.

Your participation is voluntary.

Please consider the information carefully. Feel free to ask questions before making your decision whether or not to participate. If you decide to participate, you will be asked to give your verbal consent to participate.

Purpose: To determine if Ohio State Total Health & Wellness at University Hospital East's practice team provides patient-centered care.

Procedures/Tasks: You will be asked to answer 5 survey questions about your experience in group visits and/or TEAMcare at Total Health and Wellness. The questions will involve how you felt about the care you received by the different team members. There will also be 7 questions about your age, sex, race, income, diseases you have for which you participated in group visits and/or TEAMcare, and the number of group visits you have attended or the approximate number of months you have been in TEAMcare. A person who does not work at the office will read the questions to you. No information will be asked that will identify who you are. You do not have to answer all of these questions if you do not want to. The survey will take place over the phone.

Duration: Answering the questions should take less than 25 minutes total.

You may leave the project at any time. If you decide to stop participating in the project, there will be no penalty to you, and you will not lose any benefits to which you are otherwise entitled. Your decision will not affect your future relationship with The Ohio State University. It will also not affect your relationship with Ohio State Total Health and Wellness.

Risks and Benefits: You may feel uncomfortable talking about your experiences. We have tried to decrease this discomfort by having individuals who do not work at Total Health and Wellness ask the survey questions and collect your answers. The benefit of participating in the survey is that the results are likely to improve patient-centered care at Total Health and Wellness and hopefully in other practices that use similar practice teams.

Confidentiality: No information that identifies you will be collected during the survey. You will be asked your age, sex, race, income, diseases you have for which you participated in group visits and/or TEAMcare, and the number of group visits you have attended or the approximate number of months you have been in TEAMcare.

Efforts will be made to keep your project-related information confidential. However, there may be circumstances where this information must be released. For example, personal information regarding your participation in this project may be disclosed if required by state law. Also, your records may be reviewed by the following groups (as applicable to the research):

- Office for Human Research Protections or other federal, state, or international regulatory agencies;
- The Ohio State University Institutional Review Board or Office of Responsible Research Practices;
- The sponsor, if any, or agency (including the Food and Drug Administration for FDA-regulated research) supporting the study. The Health Resource Services Administration of The U.S. Department of Health and Human Services is funding part of Total Health and Wellness. The results of this survey may be released to The Health Resource Services Administration.
- The results of this survey may be published as the project is being used for as the doctorate of nursing practice capstone project for Kristie Flamm.

Incentives: You will have the choice of a 1) an all day COTA bus ticket; 2) a *Seasons* meal ticket good for one meal (\$5 total) in the OSU East café; or 3) a pedometer

Participant Rights:

You may refuse to participate in this project without penalty or loss of benefits to which you are otherwise entitled. If you are a student or employee at Ohio State, your decision will not affect your grades or employment status.

If you choose to participate in the project, you may discontinue participation at any time without penalty or loss of benefits. By giving your consent to participate, you do not give up any personal legal rights you may have as a participant in this project.

An Institutional Review Board responsible for human subjects research at The Ohio State University reviewed this research project and found it to be acceptable, according to applicable state and federal regulations and University policies designed to protect the rights and welfare of participants in research.

Contacts and Questions:

For questions, concerns, or complaints about the study you may contact: **the office of Margaret Graham 614-292-4205.**

For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact Ms. Sandra Meadows in the Office of Responsible Research Practices at 1-800-678-6251.

If you are injured as a result of participating in this study or for questions about a study-related injury, you may contact: **the office of Margaret Graham 614-292-4205.**

Appendix J

Verbal Recruitment
Telephone Survey

- Hello, my name is _____. I am an Ohio State University nursing student and I am a volunteer collecting survey information for the TEAMcare project associated with Ohio State Total Health and Wellness. You may have received information in the mail about the project.
- This purpose of this project is to determine to what extent Total Health & Wellness provides patient-centered care to patients who have received care in TEAMcare or in group visits.
- No information will be asked that will be able to identify you during the survey process.
- You will be asked how well you think the practice team that takes cares of you provides patient-centered care.
- The entire process should take less than 25 minutes. There are twelve questions total, 5 questions about the care you receive and 7 questions about you, which include questions about your age, gender, your annual income, and the disease for which you have been seen in group visits or TEAMcare. These include high blood pressure, diabetes, high cholesterol and depression.
- Your name will not appear on the survey anywhere.
- The hope is that patient-centered care at Total Health and Wellness can be improved by the answers to these questions.
- The general results of this project will be posted in the Total Health and Wellness office once it is completed, however no one will be able to tell who has provided the information.
- There is no risk to not participating in the project. You may feel free to say no and to continue your same care at Total Health and Wellness.
- Those who participate will be able to choose from one of three items as a thank you for their time and effort: 1) a pedometer, which will measure the amount you walk; 2) a free Day Fare COTA (Central Ohio Transit Authority) bus ticket; or 3) a OSU East Seasons Café \$5 lunch ticket. If for some reason

you decide to withdraw from the project once you have started answering the survey questions, you may still choose from one of the three items. I will mail the item of your choice to you.

- I will read to you a verbal consent to participate in the project and then ask for your verbal agreement to consent if you agree to participate in this project.
- Do you have any questions?

Appendix K

Participant Survey

Interprofessional Collaborative Practice

Patient-Centered Approach

1. The Interprofessional Collaborative Practice Team seeks input from me.

1= Never 2=Very Little 3=Sometimes 4= Most of the Time 5= Always

2. The Interprofessional Collaborative Practice Team integrates my beliefs, values, and circumstances into my plan of care.

1=Never 2=Very Little 3=Sometimes 4=Most of the Time 5=Always

3. The Interprofessional Collaborative Practice Team shares options and health care information with me.

1=Never 2=Very Little 3=Sometimes 4=Most of the Time 5=Always

4. The Interprofessional Collaborative Practice Team advocates for me as a partner in the decision-making process.

1=Never 2=Very Little 3=Sometimes 4=Most of the Time 5=Always

5. Is there anything else you would like to add about your experience with the interprofessional care, group visits or TEAMcare?

Appendix L

Participant # _____

Participant Survey

Interprofessional Collaborative Practice

Patient-Centered Approach

The Interprofessional Collaborative Practice Team is what we call the group of professionals who participate in the group visits and/or TEAMcare you have been involved in. These people include the family nurse practitioner (Kristie Flamm, Margaret Graham, Matthew Stone, and Sherry Wach), the RN case manager (Ericia Howard), the dietician (Julie Kennel), the pharmacist (Tiffany Shin, Christopher Westrick), the social worker (Lori Murphy), the mental health counselor (Caroline Graham), and the psychiatric mental health nurse practitioner (Teresa Smith). Together they are called the Practice Team for the purpose of this survey.

1. The Practice Team asks me for my thoughts about my care and treatment.

1= Never 2=Very Little 3=Sometimes 4= Most of the Time 5= Always

2. The Practice Team considers what's important to my living situation and me in planning my care.

1=Never 2=Very Little 3=Sometimes 4=Most of the Time 5=Always

3. The Practice Team provides health care information to me and gives me options for treatment.

1=Never 2=Very Little 3=Sometimes 4=Most of the Time 5=Always

4. The Practice Team tries to include me in decisions about my care and treatment.

1=Never 2=Very Little 3=Sometimes 4=Most of the Time 5=Always

5. Is there anything else you would like to add about your experience with the Practice Team, group visits and/or TEAMcare?

Appendix M

Participant Demographic Information

Participant # _____**Age:** _____**Gender:** _____**Race:** (circle)

White/Caucasian

African-American/Black

Asian

Hispanic/Latino

American Indian/Alaskan Native

Native Hawaiian/Pacific Islander

Other: _____

Annual Income: (circle)

\$10,000 or below

>\$10,000

>\$20,000

>\$30,000

>\$40,000

>\$50,000

>\$60,000

>\$70,000

above \$80,000

Diseases you are treated for: (circle all that apply)

Diabetes

High Blood Pressure

High Cholesterol

Depression

Number of Group Visits You Have Attended: _____**How Long Have You Been on TEAMcare:** _____ (approx. months)

Appendix N

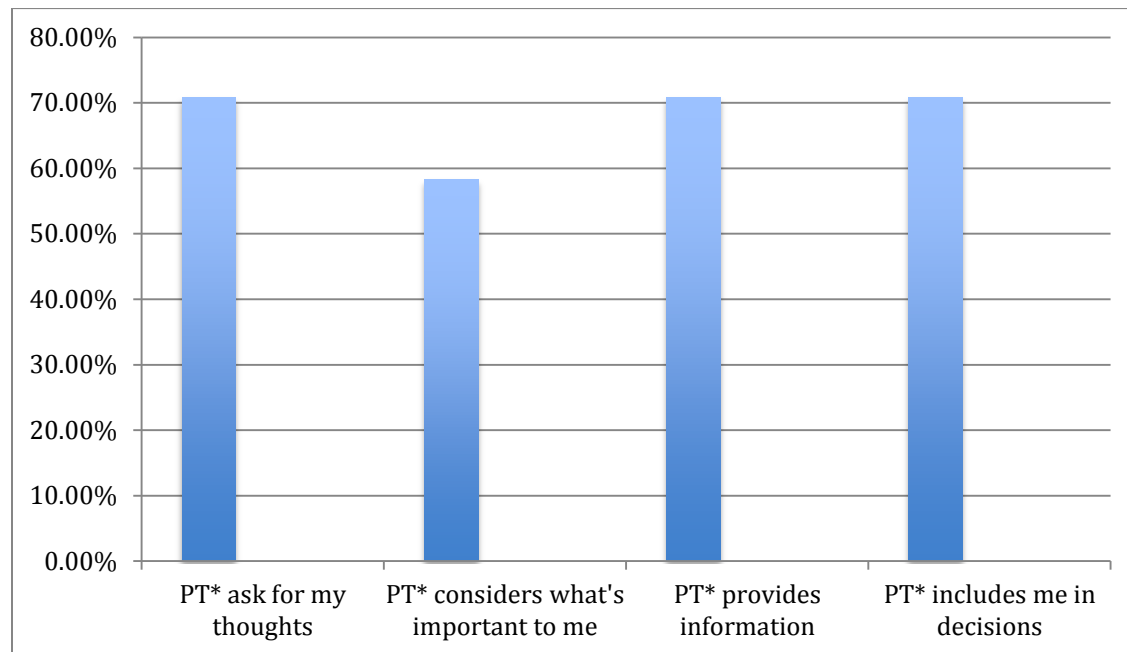
Survey Results

| Survey Question | Mean | Median | Mode |
|---|-------|--------|------|
| 1. The Practice Teams asks me for my thoughts about my care and treatment. | 4.375 | 5 | 5 |
| 2. The Practice Team considers what's important to me and my living situation and me in planning my care. | 4.25 | 5 | 5 |
| 3. The Practice Team provides health care information to me and gives me options for treatment. | 4.5 | 5 | 5 |
| 4. The Practice Team tries to include me in decisions about my care and treatment | 4.458 | 5 | 5 |

n=24

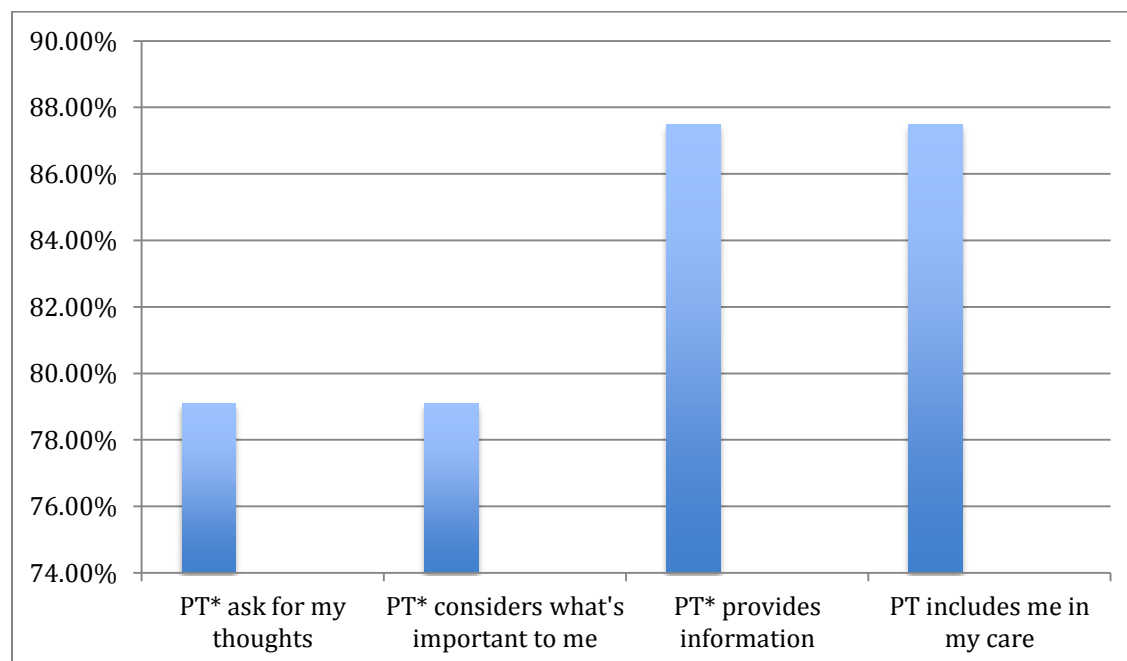
Appendix O

Table 1 Percentage of Participants Responding “Always” to Survey Questions



n=24 *PT = Practice Team

Table 2 Percentage of Participants Responding “Always” or “Most of the Time” to Survey Questions



n=24 *PT = Practice Team

Appendix P

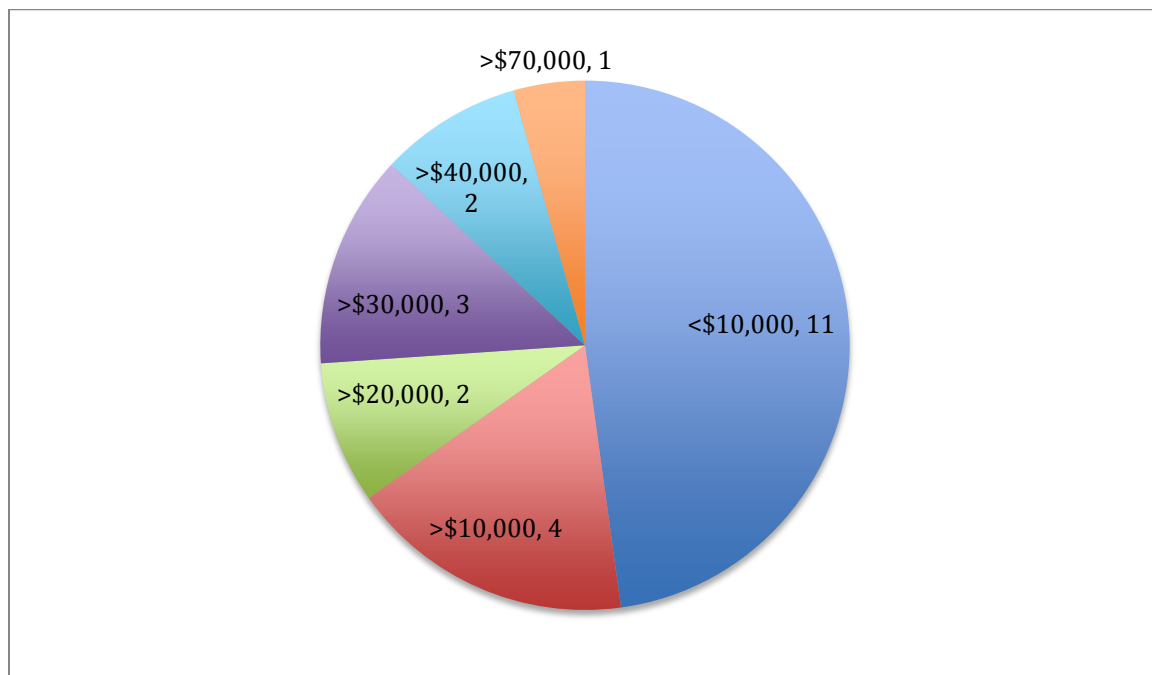
Table 3 Demographic Data

| | |
|------------------|-------------|
| Age | 54.21 years |
| Female | 14 |
| Male | 10 |
| African-American | 19 |
| Caucasian/White | 3 |
| Latino | 1 |
| American Indian | 1 |

Table 4 Group Visit and TEAMcare Information

| | |
|---|-----|
| Average Number of Group Visits Attended | 5.5 |
| Average Number of Months of TEAMcare | 8.9 |

Table 5 Participants by Annual Income



n=24

Appendix Q

Table 6 Participants' Reported Combined Disease Processes Ranked by Frequency

| Diseases | Number of Participants |
|--|------------------------|
| Diabetes, Hypertension, Hyperlipidemia, Depression | 6 |
| Hypertension | 4 |
| Diabetes | 3 |
| Diabetes, Hypertension, Hyperlipidemia | 2 |
| Diabetes, Hypertension, Depression | 2 |
| Diabetes, Hyperlipidemia | 2 |
| Hypertension, Depression | 2 |
| Hypertension, Hyperlipidemia, Depression | 1 |
| Diabetes, Hypertension | 1 |
| Hyperlipidemia, Depression | 1 |

n=24

Table 7 Individual Diseases by Frequency

| Disease | Frequency by Participant |
|----------------|--------------------------|
| Hypertension | 18 |
| Diabetes | 16 |
| Hyperlipidemia | 13 |
| Depression | 11 |

n=24

